Viewpoint 1.

Balloon Visible - Balmer Road, between the Cain Road and Porter Center Road intersections. Previous Viewpoint 117

Viewpoint 2.

Balloon Not Visible - Dickersonville Road, between the Route 93 and Balmer Road intersections. Previous Viewpoint 87

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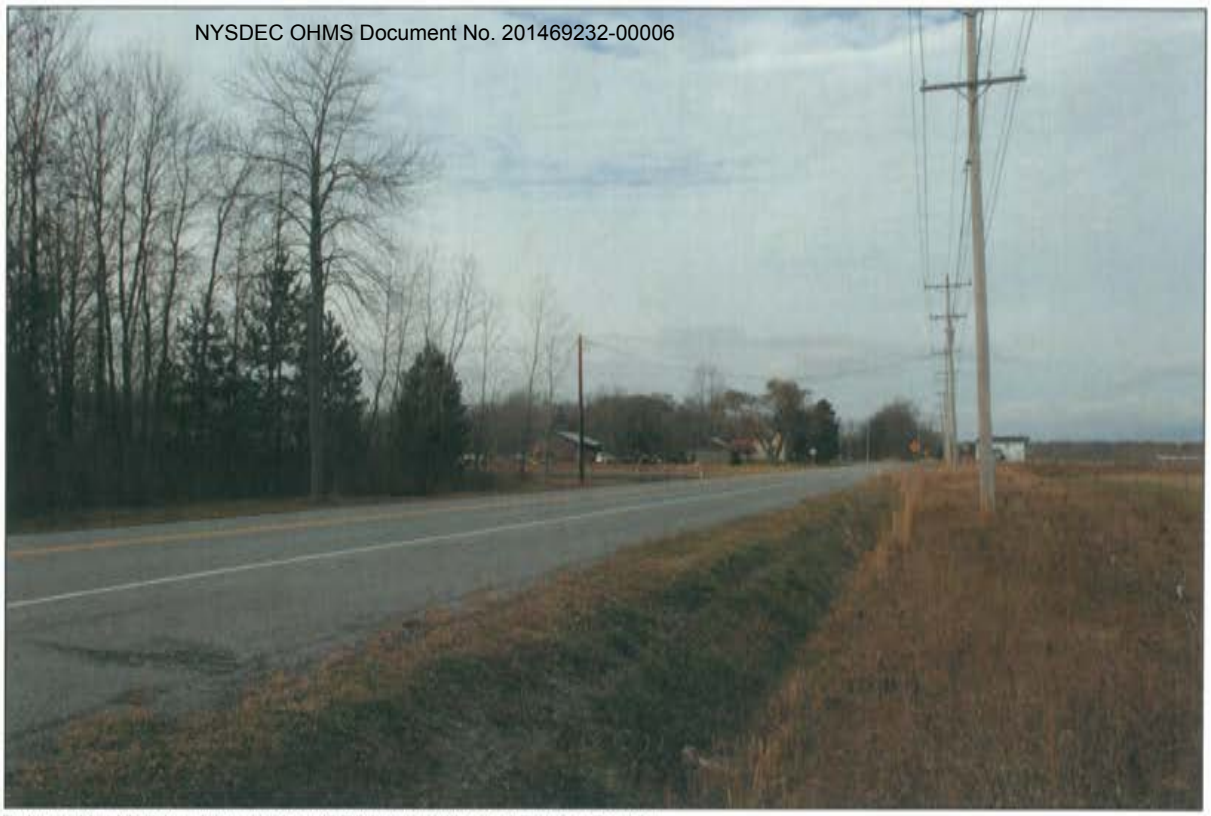
Viewpoint 3.



Balloon Not Visible - Intersection of Dickersonville and Balmer Roads.

Viewpoint 4.

Balloon Not Visible - Intersection of Porter Center and Balmer Roads.

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Viewpoint 5.

Balloon Not Visible - Porter Center Road, south of the Swann Road intersection. Previous Viewpoint 75

Viewpoint 6.

Balloon Visible - Ridge Road between Porter Center and Model City Roads

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Viewpoint 7.

Balloon Visible - Indian Hill Road south of the intersection of Ridge Road and Model City Road. Previous Viewpoint 43

Viewpoint 8.

Balloon Visible - Indian Hill Road south of the intersection of Ridge Road and Model City Road. Previous Viewpoint 43

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Viewpoint 9.

Balloon Visible - Ridge Road between Model City and Creek Roads.

Viewpoint 10.

Balloon Not Visible - Ridge Road on the Niagara Escarpment, near the Creek Road Extension. Previous Viewpoint 62

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Viewpoint 11.

Balloon Not Visible - Swann Road - Barnabite Fathers Seminary

Viewpoint 12.

Balloon Not Visible - Swann Road - Our Lady of Fatima Shrine

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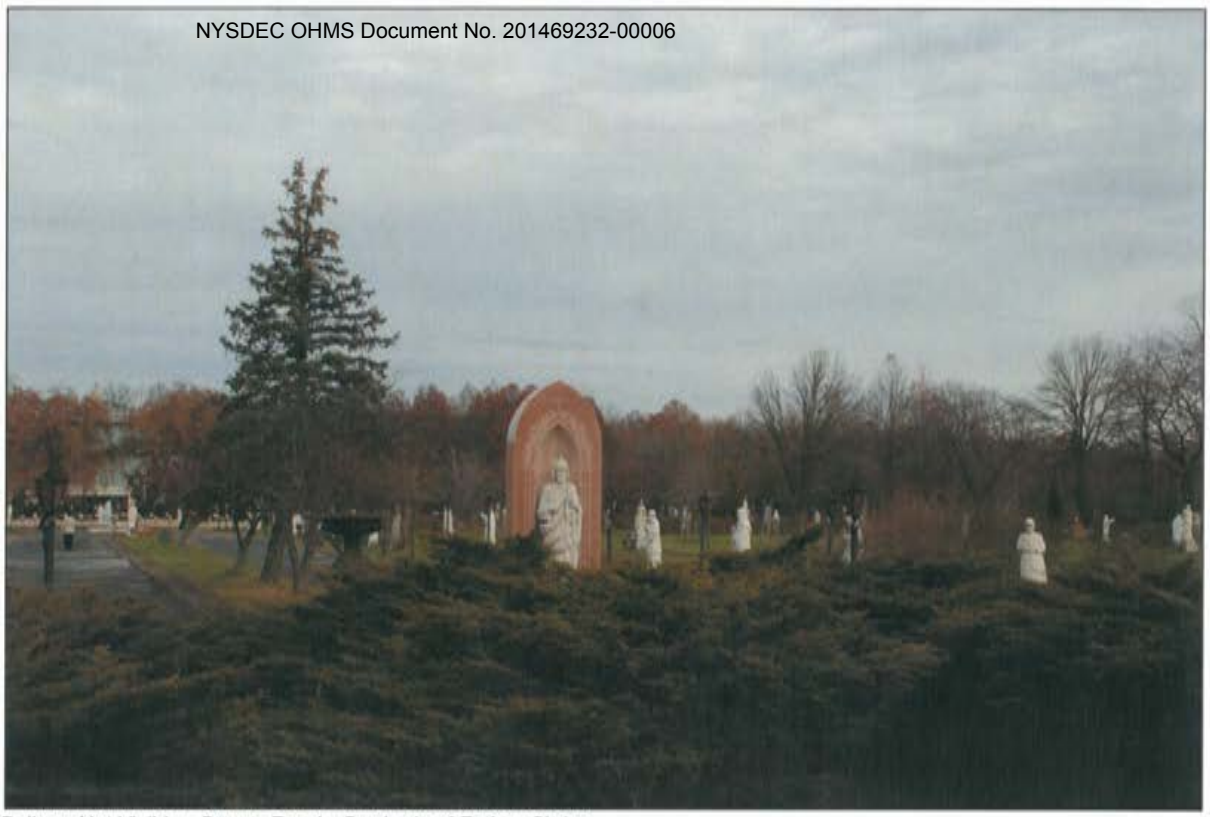
Viewpoint 13.



Balloon Not Visible - Swann Road - Our Lady of Fatima Shrine

Viewpoint 14.

Balloon Not Visible - Stella Niagara - Pletcher Road

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Viewpoint 15.

Balloon Not Visible - Joseph Davis State Park

Viewpoint 16.

Balloon Not Visible - Fort Niagara State Park

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Viewpoint 17.

Balloon Not Visible - Fort Niagara State Park

Viewpoint 18.

Balloon Not Visible - Old Fort Niagara and Light House

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Viewpoint 19.

Balloon Not Visible - Creek Road and Youngstown Lockport Road (93)

Viewpoint 20.

Balloon Not Visible - Creek Road

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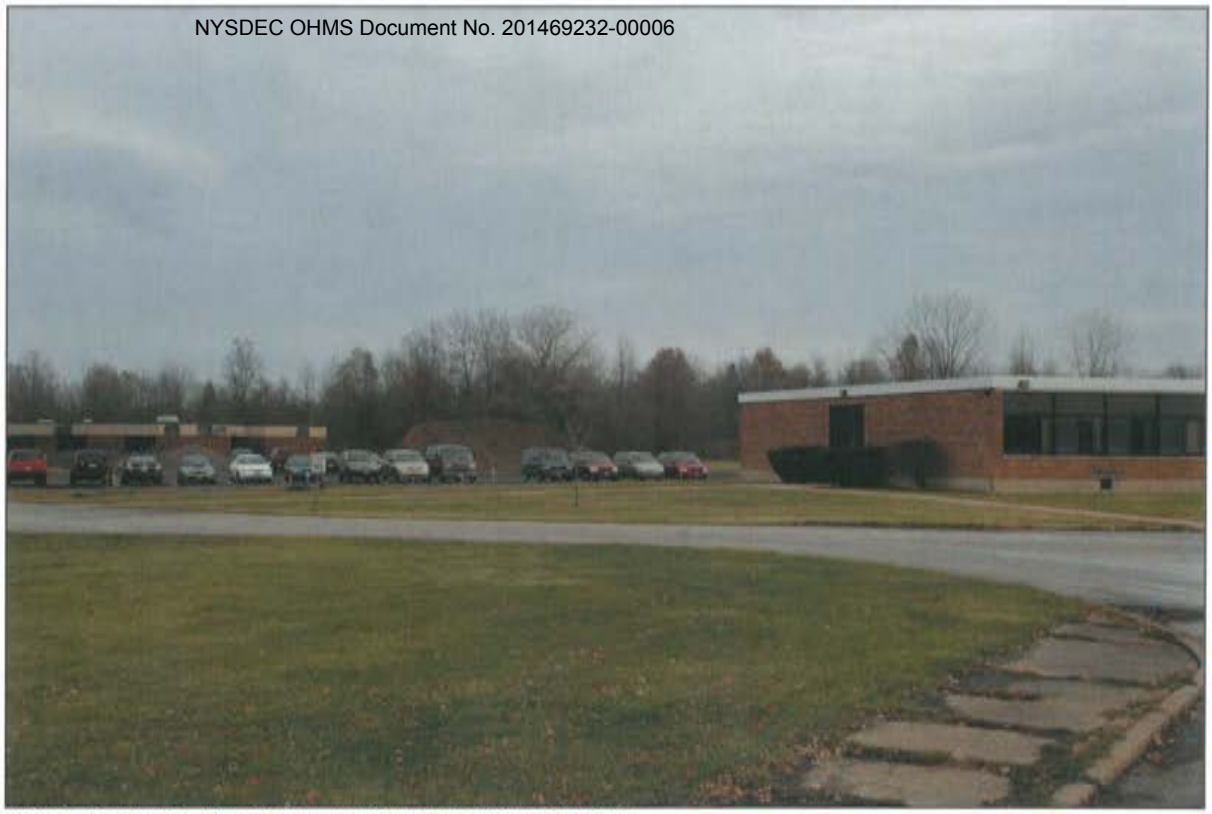
Viewpoint 21.



Balloon Not Visible - Creek Road - Lewiston-Porter Central Schools

Viewpoint 22.

Balloon Not Visible - Center Street Lewiston. Frontier House

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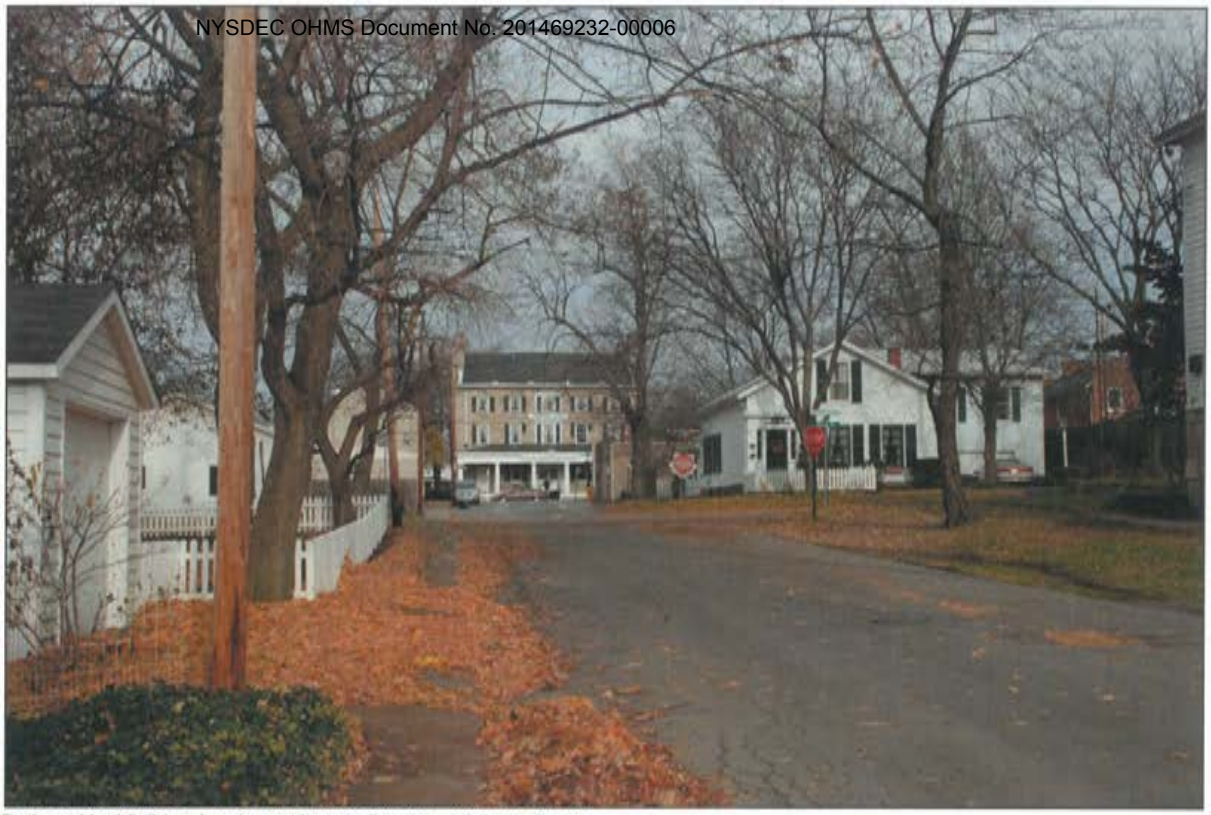
Viewpoint 23.



Balloon Not Visible - Lewiston Historic District - Niagara Street

Viewpoint 24.

Balloon Not Visible - Robert Moses Parkway

RMU-2 Visibility Assessment

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Viewpoint 25.

Balloon Not Visible - Robert Moses Parkway

Viewpoint 26.

Balloon Not Visible - Saint Johns Episcopal Church, Youngstown

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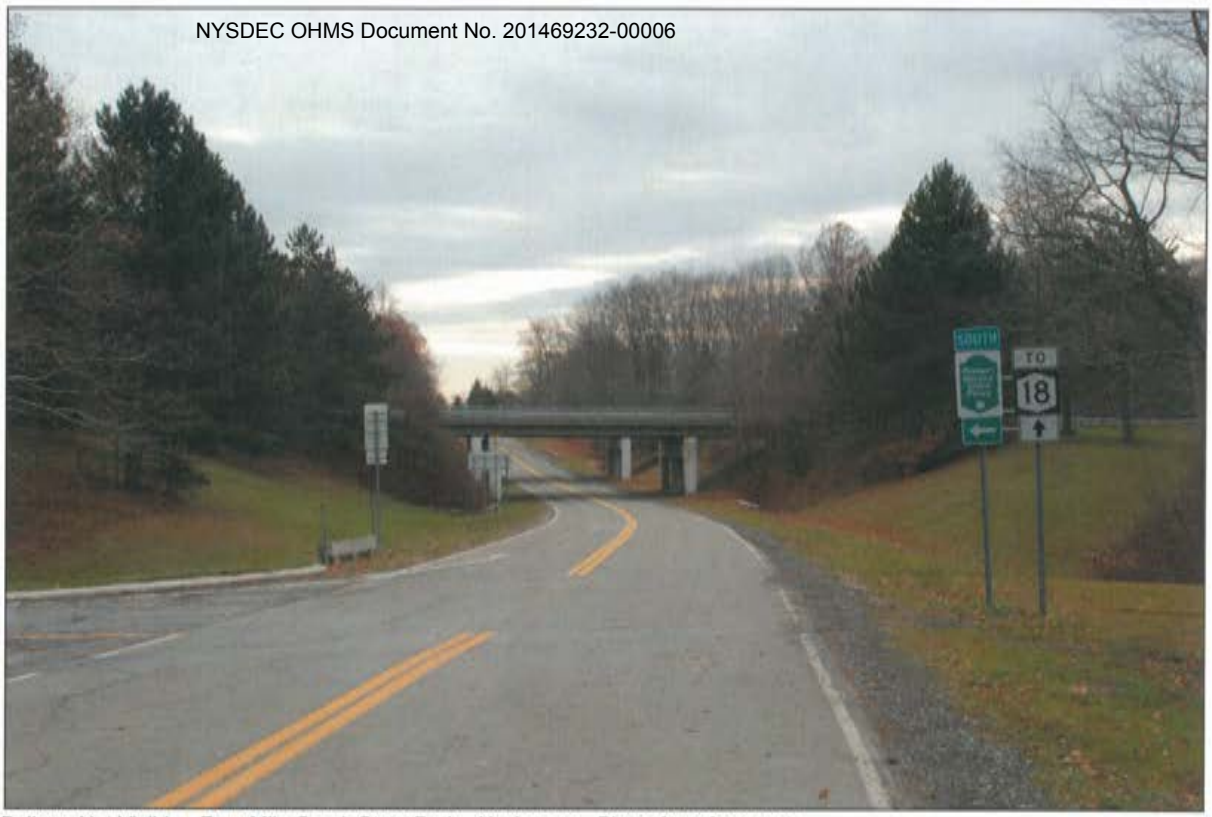
Viewpoint 27.



Balloon Not Visible - Four Mile Creek State Park - No Access - Photo from front gate

Viewpoint 28.

Balloon Not Visible - Youngstown Road east of Cothran Road

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Towns of Lewiston and Porter - Niagara County, New York
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Viewpoint 29.

Balloon Not Visible - Braley Road West of Porter Road

Viewpoint 30.

Balloon Not Visible - Braley Road West of Porter Road

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Viewpoint 31.

Balloon Not Visible - Porter Center Road

Viewpoint 32.

Balloon Not Visible - Braley Road Ransomville Speedway

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Towns of Lewiston and Porter - Niagara County, New York
Figure 7 - Viewpoint Photos

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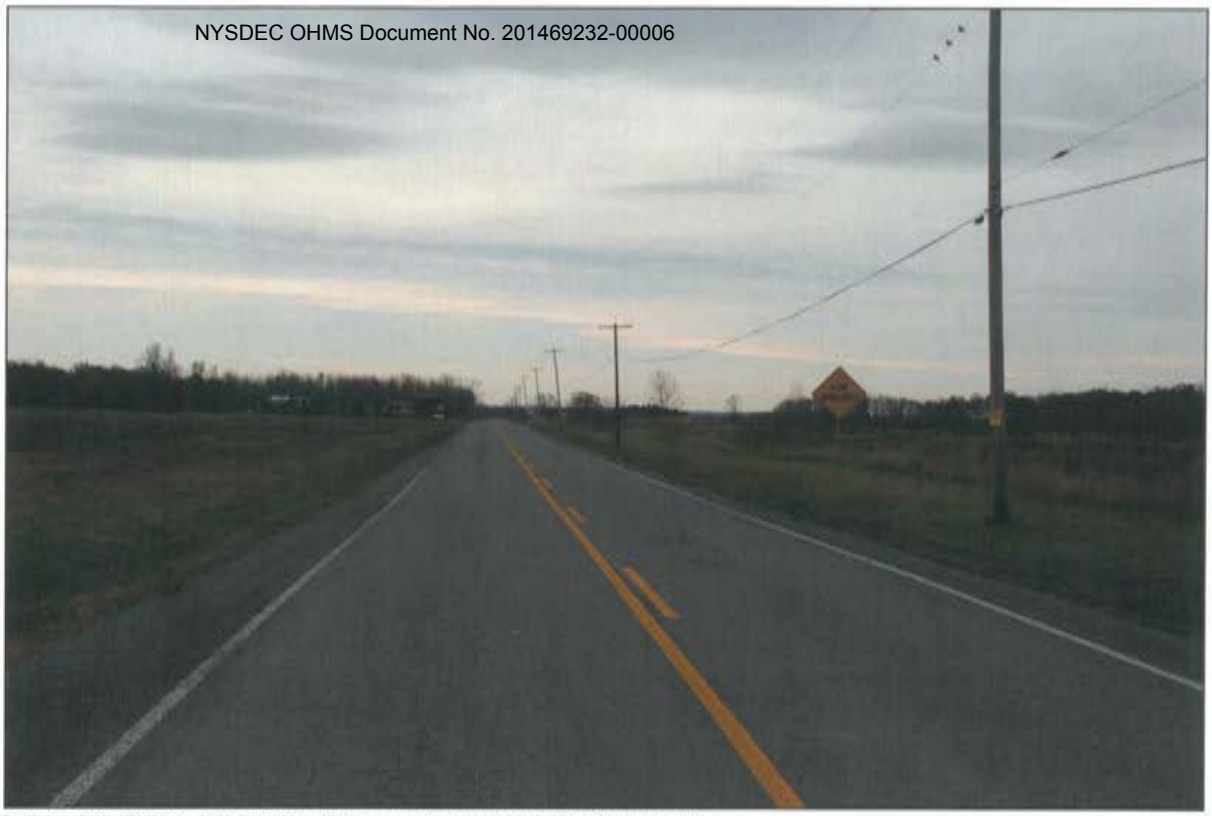
EDR

Viewpoint 33.



Balloon Not Visible - Intersection of Youngstown and Dickersonville Roads

Viewpoint 34.

Balloon Not Visible - Lake Road (Seaway Trail)

RMU-2 Visibility Assessment
Towns of Lewiston and Porter - Niagara County, New York
Figure 7 - Viewpoint Photos

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EDR

Viewpoint 35.

Balloon Not Visible - Lake Road (Seaway Trail)

Viewpoint 36.

Balloon Not Visible - Lake Road (Seaway Trail) Near Dietz Road

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Towns of Lewiston and Porter - Niagara County, New York
Figure 7 - Viewpoint Photos

December 2007

EDR

Viewpoint 37.

Balloon Not Visible - Intersection of Youngtown Lockport (93) and Lutts Roads

Viewpoint 38.

Balloon Not Visible - Intersection of Balmer and Lutts Roads

RMU-2 Visibility Assessment
Towns of Lewiston and Porter - Niagara County, New York
Figure 7 - Viewpoint Photos

December 2007

EDR

Viewpoint 39.

Balloon Not Visible - Intersection of Dickersonville and Schoolhouse Roads

Viewpoint 40.

Balloon Visible - Ridge Road, west of the Dickersonville Road intersection. Previous Viewpoint 74

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Towns of Lewiston and Porter - Niagara County, New York
Figure 7 - Viewpoint Photos

December 2007

EDR

Viewpoint 41.

Balloon Visible - Ridge Road, west of the Dickersonville Road intersection. Cemetery

Viewpoint 42.

Balloon Not Visible - Balmer Road - CWM property entrance

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Viewpoint	Balloon	Latitude	Longitude	GPS	Photo From	Photo To	Viewpoint Location Description
Balloon		43.22396	-78.97406	1	CWM_224.JPG	CWM_224.JPG	Balloon
1	Visible	43.23103	-78.97467	2	CWM_1.JPG	CWM_13.JPG	Viewpoint 117 - Reshoot
2	Not Visible	43.23426	-78.93683	3	CWM_14.JPG	CWM_25.JPG	Viewpoint 87 - Reshoot
3	Not Visible	43.23147	-78.93602	4	CWM_26.JPG	CWM_28.JPG	Intersection of Dickersonville and Balmer Roads
4	Not Visible	43.23097	-78.95776	5	CWM_29.JPG	CWM_35.JPG	Intersection of Porter Center and Balmer Roads
5	Not Visible	43.19753	-78.96756	6	CWM_36.JPG	CWM_43.JPG	Viewpoint 75 - Reshoot - Porter Center Road, south of the Swann Road intersection.
6	Visible	43.18079	-78.97488	7	CWM_44.JPG	CWM_51.JPG	Ridge Road
7	Visible	43.17698	-78.98366	8	CWM_52.JPG	CWM_58.JPG	Viewpoint 43 - Reshoot - Tuscarora Indian Res.
8	Visible	43.1768	-78.98384	9	CWM_59.JPG	CWM_69.JPG	Viewpoint 43 - Reshoot - Tuscarora Indian Res.
9	Visible	43.17507	-78.99812	10	CWM_70.JPG	CWM_79.JPG	Ridge Road (Route 104)
10	Not Visible	43.16597	-79.03443	11	CWM_80.JPG	CWM_93.JPG	Viewpoint 62 - Reshoot Ridge Road on the Niagara Escarpment, near the Creek Road Extension.
11	Not Visible	43.19832	-79.007	12	CWM_94.JPG	CWM_98.JPG	Barnabite Fathers Seminary
12	Not Visible	43.19808	-79.00518	13	CWM_99.JPG	CWM_104.JPG	Swann Road - Our Lady of Fatima Shrine
13	Not Visible	43.19807	-79.00353	14	CWM_105.JPG	CWM_107.JPG	Swann Road - Our Lady of Fatima Shrine
14	Not Visible	43.20026	-79.03986	15	CWM_109.JPG	CWM_114.JPG	Stella Niagara - Pletcher Road
15	Not Visible	43.21801	-79.04276	16	CWM_115.JPG	CWM_117.JPG	Joseph Davis State Park
16	Not Visible	43.25791	-79.0499	17	CWM_118.JPG	CWM_119.JPG	Fort Niagara State Park
17	Not Visible	43.26152	-79.0513	18	CWM_120.JPG	CWM_122.JPG	Fort Niagara State Park
18	Not Visible	43.26214	-79.06081	19	CWM_123.JPG	CWM_127.JPG	Old Fort Niagara and Light House
19	Not Visible	43.2576	-79.0092	20	CWM_128.JPG	CWM_132.JPG	Creek Road and Youngtowns Lockport Road (93)
20	Not Visible	43.23946	-79.01381	21	CWM_133.JPG	CWM_133.JPG	Creek Road
21	Not Visible	43.22049	-79.01738	22	CWM_134.JPG	CWM_136.JPG	Creek Road - Lewiston-Porter Central Schools
22	Not Visible	43.17277	-79.04227	23	CWM_137.JPG	CWM_140.JPG	Center Street Lewiston. Frontier House
23	Not Visible	43.17141	-79.04261	24	CWM_141.JPG	CWM_143.JPG	Lewiston Historic District - Niagara Street
24	Not Visible	43.20621	-79.02781	25	CWM_144.JPG	CWM_149.JPG	Robert Moses Parkway
25	Not Visible	43.24007	-79.03129	26	CWM_150.JPG	CWM_159.JPG	Robert Moses Parkway
26	Not Visible	43.25399	-79.04997	27	CWM_154.JPG	CWM_159.JPG	Saint Johns Episcopal Church, Youngstown
27	Not Visible	43.27339	-78.99613	28	CWM_160.JPG	CWM_162.JPG	Four Mile Creek State Park - No Access - Photo from front gate
28	Not Visible	43.26375	-78.99275	29	CWM_163.JPG	CWM_166.JPG	Youngstown Road east of Cothran Road
29	Not Visible	43.26372	-78.97886	30	CWM_167.JPG	CWM_167.JPG	Braley Road West of Porter Road
30	Not Visible	43.26376	-78.95727	31	CWM_168.JPG	CWM_170.JPG	Braley Road West of Porter Road
31	Not Visible	43.24966	-78.95764	32	CWM_171.JPG	CWM_173.JPG	Porter Center Road
32	Not Visible	43.25651	-78.92661	33	CWM_174.JPG	CWM_174.JPG	Braley Road Ransomville Speedway
33	Not Visible	43.27543	-78.93811	34	CWM_175.JPG	CWM_179.JPG	Intersection of Youngstown and Dickersonville Roads
34	Not Visible	43.28531	-78.95001	35	CWM_180.JPG	CWM_182.JPG	Lake Road (Seaway Trail)
35	Not Visible	43.27968	-78.96888	36	CWM_183.JPG	CWM_186.JPG	Lake Road (Seaway Trail)
36	Not Visible	43.27253	-78.98682	37	CWM_187.JPG	CWM_189.JPG	Lake Road (Seaway Trail) Dietz Road
37	Not Visible	43.25487	-78.98763	38	CWM_190.JPG	CWM_190.JPG	Youngtown Lockport Road (93) and Lutts Road
38	Not Visible	43.23117	-78.9878	39	CWM_191.JPG	CWM_194.JPG	Intersection of Balmer and Lutts Road
39	Not Visible	43.21457	-78.93023	40	CWM_195.JPG	CWM_199.JPG	Intersection of Dickersonville and Schoolhouse Roads
40	Visible	43.18507	-78.94982	41	CWM_200.JPG	CWM_206.JPG	Viewpoint 74 - Reshoot Ridge Road (Route 104)
41	Visible	43.18893	-78.93958	42	CWM_207.JPG	CWM_220.JPG	Ridge Road (Route 104) Cemetery
42	Not Visible	43.23104	-78.96647	43	CWM_221.JPG	CWM_223.JPG	Balmer Road and CWM Entrance

ARCADIS

Appendix K

Traffic Analysis Study

TRAFFIC ANALYSIS STUDY

FOR PROPOSED LANDFILL SITE

PREPARED FOR
CWM CHEMICAL SERVICES, INC.
MODEL CITY, NEW YORK

PREPARED BY
BETTIGOLE ANDREWS & CLARK, INC.
237 MAIN STREET
BUFFALO, NEW YORK 14203

Lane K. Hardin

LANE K. HARDIN P.E.
VICE PRESIDENT

MARCH 10, 1993

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INTRODUCTION

CWM Chemical Services, Inc. (CWM) is currently in the process of developing a design and permit application package for a proposed hazardous waste landfill, referred to as Residuals Management Unit-1 (RMU-1), on property they own which is currently being utilized for a landfill operation. The site is located in the Town of Porter, New York adjacent to Balmer Road in the northwestern part of Niagara County and is shown in Figure 1. The site is intended to have access through existing roadways that serve the current activities of CWM on their facility.

The specific site for the proposedhazardous waste landfill is located within the confines of the existing CWM permitted treatment, storage and disposal facility (TSDF). The facility location is bounded by Balmer Road to the north and Porter Center Road to the east. Other privately owned properties bound the CWM Model City facility on the south and west sides.

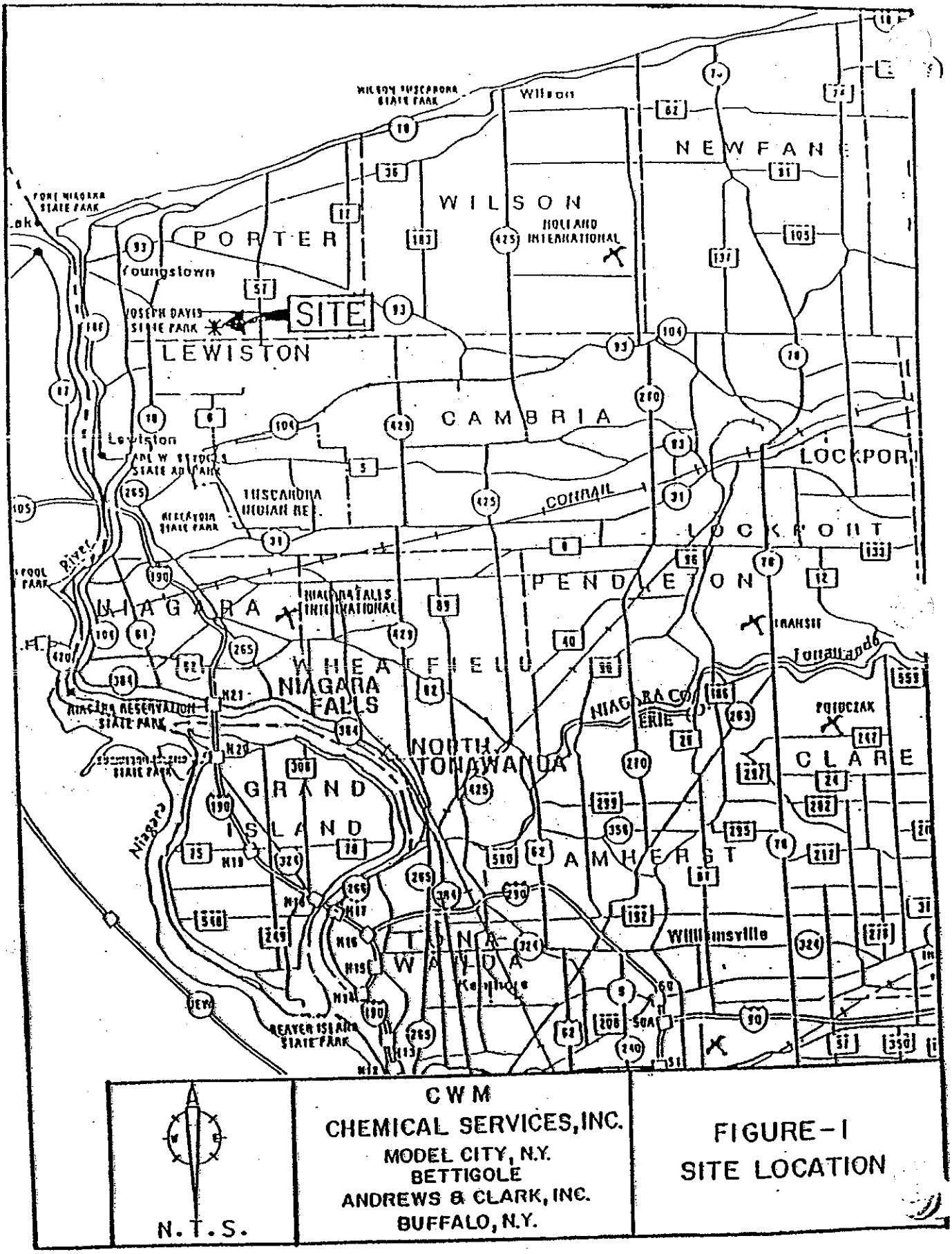
A Draft Environmental Impact Study (DEIS) is part of the RMU-1 permit application process and traffic is one component of the DEIS. Bettigole Andrews & Clark, Inc. was contracted by RUST Environment & Infrastructure to determine:

* The existing traffic operations on the current designated waste transportation route, and

* The traffic operations on the current designated transportation route for the target year (1993) without and with the influence of soil hauling trucks anticipated for construction of the proposed landfill.

* Determine the amount of additional truck traffic that would cause a change of one level of traffic operations on the transportation route.

Thus, the purpose of this study is to identify existing traffic operations along the currently designated transportation route (New York Routes 104, 18 and Balmer Road), target year (1993) traffic operations, and the magnitude of additional truck traffic to change traffic level of service operations. This report includes Findings from the analysis and Recommendations, as warranted, to accommodate travel demands anticipated by traffic.


SITE
PORTER
WILSON
NEWFANE
LEWISTON
CAMBRIA
LOCKPORT
PENDLETON
NIAGARA
WHEATFIELD
NIAGARA FALLS
NORTH TONAWANDA
GRAND ISLAND
AMHERST
CLARE
TONAWANDA
Youngstown
Lewiston
Williamsville
Niagara
N.T.S.
CWM
CHEMICAL SERVICES, INC.
MODEL CITY, N.Y.
BETTIGOLE
ANDREWS & CLARK, INC.
BUFFALO, N.Y.
FIGURE-1
SITE LOCATION

SCOPE

This traffic impact study addresses the issue of:

* Traffic

The traffic analysis contained herein was conducted for two (2) basic conditions:

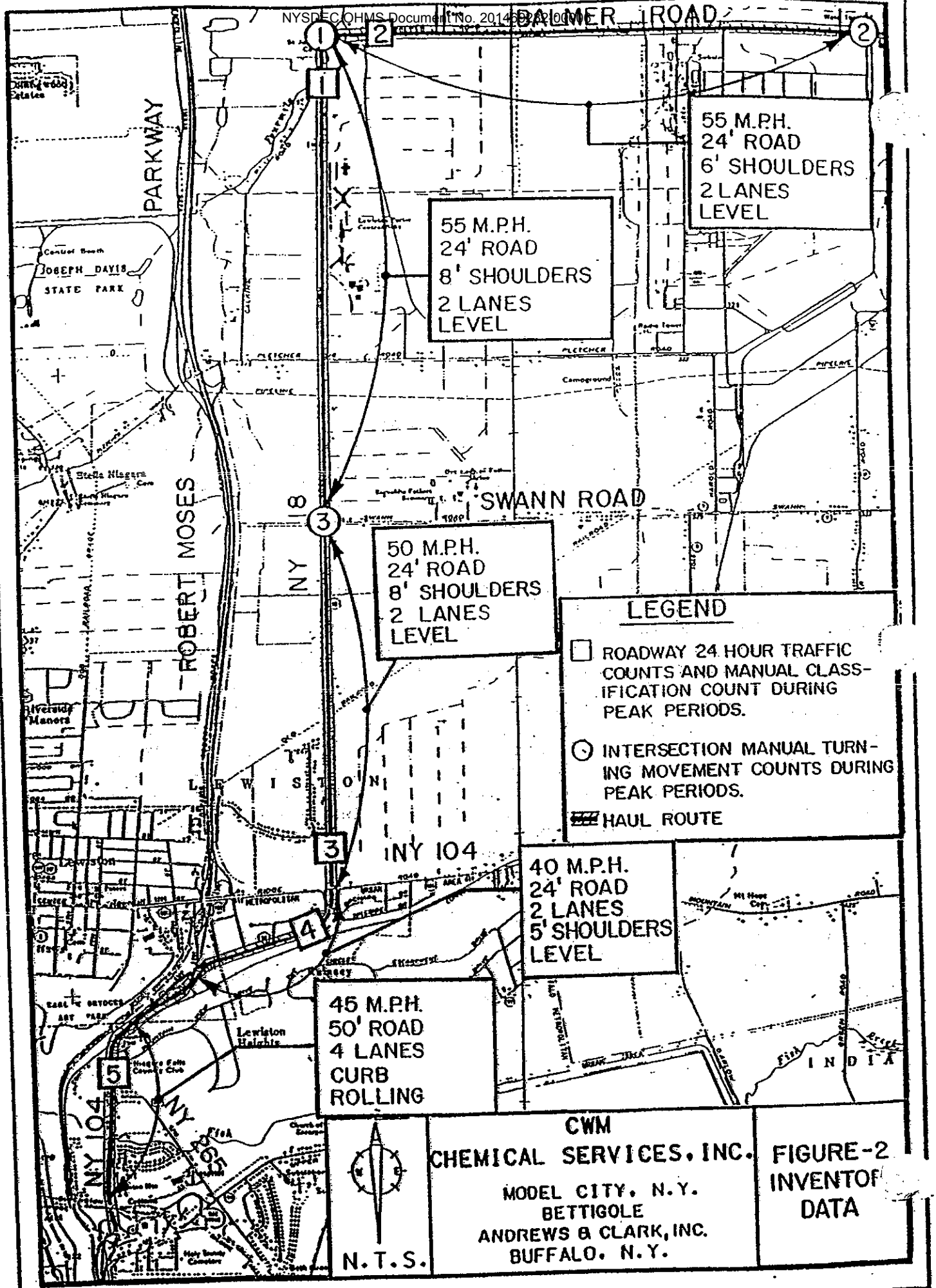
* Existing traffic conditions.

* Target year (1993) traffic conditions.

Traffic operations were analyzed at three (3) intersections - Balmer Road and NY 18, NY 18 and Swann Road and Balmer Road and CWM Driveway - and for five (5) highway segments located on NY 18, NY 104 and Balmer Road. These locations are shown in Figure 2. They have been analyzed because all waste hauling vehicles that access the site utilize NY 104, NY 18 and Balmer Road. Site related truck traffic is expected to use these highways in the foreseeable future.

Concern by residents and CWM about the impact of site related traffic on these roadways is the issue of the traffic analysis study. There is considerable concern because all site related truck traffic as well as a major portion of the current employment staff utilizes Routes 104, 18 and Balmer Road from the south to access the site. In addition, for purposes of a worst-case analysis in the DEIS during the estimation of impacts, it will be assumed that all soil hauling trucks will also access the site by using the designated transportation route. There is extensive residential development adjacent to New York Routes 104 and 18. Very little development is adjacent to Balmer Road, but occasional residences are located along the rural segment of Balmer Road. The Lewiston-Porter School complex is located on the east side of Route 18 north of Pletcher Road.

Roadway and intersection analyses were performed to determine if existing geometrics and traffic controls are sufficient to accommodate existing traffic and anticipated target year traffic or if specific changes are needed. To make these determinations, traffic counts were made to determine existing traffic patterns. The counts were analyzed to determine existing traffic operations.



PROCEDURE

The impact of traffic on Routes 104, 18 and Balmer Road was determined by examining existing and target year traffic conditions. A second analyses was performed that determined the amount of additional trucks that would be necessary to reduce the current Level of Service operations of intersections and highway segments by successive levels (letter characterization).

The traffic analysis process involved:

* Data collection.
* Level of Service Analysis.
* Sight Distance Analysis.
* Findings.
* Recommendations.

Existing conditions of street geometrics, traffic controls, and traffic volumes were collected and examined. Intersection turning movement counts during peak periods obtained manually and daily traffic counts by direction and hour of the day using automatic machine counters were collected. The status of traffic operations for the Existing Condition was determined by performing a Level of Service (LOS) analysis. The analysis utilized existing traffic count data, roadway geometrics and traffic controls. The LOS analysis was performed utilizing the procedures outlined in the 1985 version of the Highway Capacity Manual published by the Transportation Research Board.

The status of traffic operations for the Target Year Condition was determined by performing a Level of Service (LOS) analysis for traffic without and with the influence of construction trucks. The analysis utilized existing traffic count data, traffic growth factors, roadway geometrics and traffic controls.

Safety conditions along the highways were considered by examining traffic accident experience and sight distances. Accidents that occurred along the three highways for the three years of 1989, 1990 and 1991 were obtained from the Niagara County Sheriff Department. Sight distances at the three intersections and at the driveways to the Lewiston-Porter School Complex were determined and analyzed using the procedures for STOPPING SIGHT DISTANCES outlined in "A POLICY on GEOMETRIC DESIGN of HIGHWAYS and STREETS", 1990, by the AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS.

TRAFFIC ANALYSIS

Traffic analysis contained herein identifies:

* Base Conditions.
* Level of Service.
* Accident Experience.
* Sight Distance Conditions.

Base Conditions

The term "Base Condition" used herein refers to the street and highway configuration and corresponding traffic operations that currently exist (1992). Other highway related parameters include road and shoulder conditions, weight limits and sight distances. Another safety parameter considered besides sight distance is accident experience.

NY 104 is oriented in a north-south direction and provides service between Interstate 190 and two other roads - NY 18 and the Robert Moses Parkway. The road is a 4 lane arterial with curbs. The road is 50 feet wide with 2 lanes of travel in each direction. Parking is not permitted along the road. The speed limit is 55 mph north of NY 265 (Military Road) and 45 mph south of NY 265. The intersection of NY 104 and NY 265 is signalized. All other streets intersecting NY 104 are controlled by STOP signs.

The road surface is concrete. Transverse and longitudinal joints have separated and heaved and the road contains frequent patch repairs at those joints. Occasional corner cracks at joints and transverse cracks exist. The road surface is in Fair condition. The legal weight limit is 80,000 lbs and no weight limit is posted during the spring season or for structures.

NY 18 (Creek Road) is oriented in a north-south direction and provides traffic service east of the Village of Lewiston, see Figure 2. The road is rural in character and has two lanes for travel with a pavement width of 24 feet. The shoulders are paved and are 5 feet wide south of NY 104 (Ridge Road) and 8 feet wide between NY 104 and Balmer Road. The speed limit is 40 mph south of NY 104, 50 mph north of NY 104 and 55 mph north of Swann Road.

The road surface south of NY 104 overpass is asphalt and contains frequent alligator cracking. It is considered to be in Good condition. Shoulders are frequently deteriorated and are in Poor condition. The legal weight limit is 80,000 lbs and no weight limit is posted during the spring season or for structures.

The road surface north of NY 104 overpass is concrete. Transverse joints have heaved and occasional transverse cracks exist. The road surface is in Fair condition. Shoulders are occasionally partially deteriorated and are in Fair condition. No weight limits are posted during the spring season.

There are no stop sign controls or signals along NY 18 from the southern end at NY 104 north to Balmer Road. Profile of the road is nearly level and passing is not restricted except for the curve immediately south of NY 104.

BALMER ROAD is a two lane rural road 24 feet wide with paved 6 foot shoulders. Typical vehicle operating speed between NY 18 and Porter Center Road is 55 mph. Traffic approaching NY 18 on Balmer Road is controlled by a STOP sign. Profile of the road is level and passing is not restricted.

The road and shoulder surface is asphalt and is in Excellent condition. The legal weight limit is 80,000 lbs and no weight limit is posted during the spring season or for structures.

PEAK HOUR TRAFFIC was counted by Bettigole Andrews & Clark, Inc. in May, 1992 during the following hours:

* Morning hours of 7:00-9:00 AM,
* Mid-Day hours of 11:30 AM-1:30 PM, and
* Afternoon hours of 4:00-6:00 PM.

These hours were selected to coincide with the peak hours of traffic on NY 18, NY 104 and Balmer Road.

The counts consisted of manual turning movements recorded by 15 minute intervals and were stratified by automobiles and trucks. Counts were conducted for a weekday at three intersections, see Figure 2:

* (1) NY 18 and Balmer Road.
* (2) Balmer Road and CWM Driveway for trucks.
* (3) NY 18 and Swann Road.

The peak hours for each intersection are:

* NY 18 and Balmer Road -
    * Morning - 7:00-8:00 AM,
    * Mid-Day - 12:00 PM-1:00 PM
    * Afternoon - 4:15-5:15 PM

* Balmer Road and CWM Drive -
    * Morning - 7:00-8:00 AM,
    * Mid-Day - 11:45 AM-12:45 PM
    * Afternoon - 4:00-5:00 PM

* NY 18 and Swann Road -
  * Morning - 7:15-8:15 AM,
  * Mid-Day - 12:00 PM-1:00 PM
  * Afternoon - 4:00-5:00 PM

Turning movements for the Base Condition for each of the morning, mid-day and afternoon peak hours are shown in Figures 3, 4 and 5 for each of the intersections listed above. The movements represent traffic maneuvers (either through or turns).

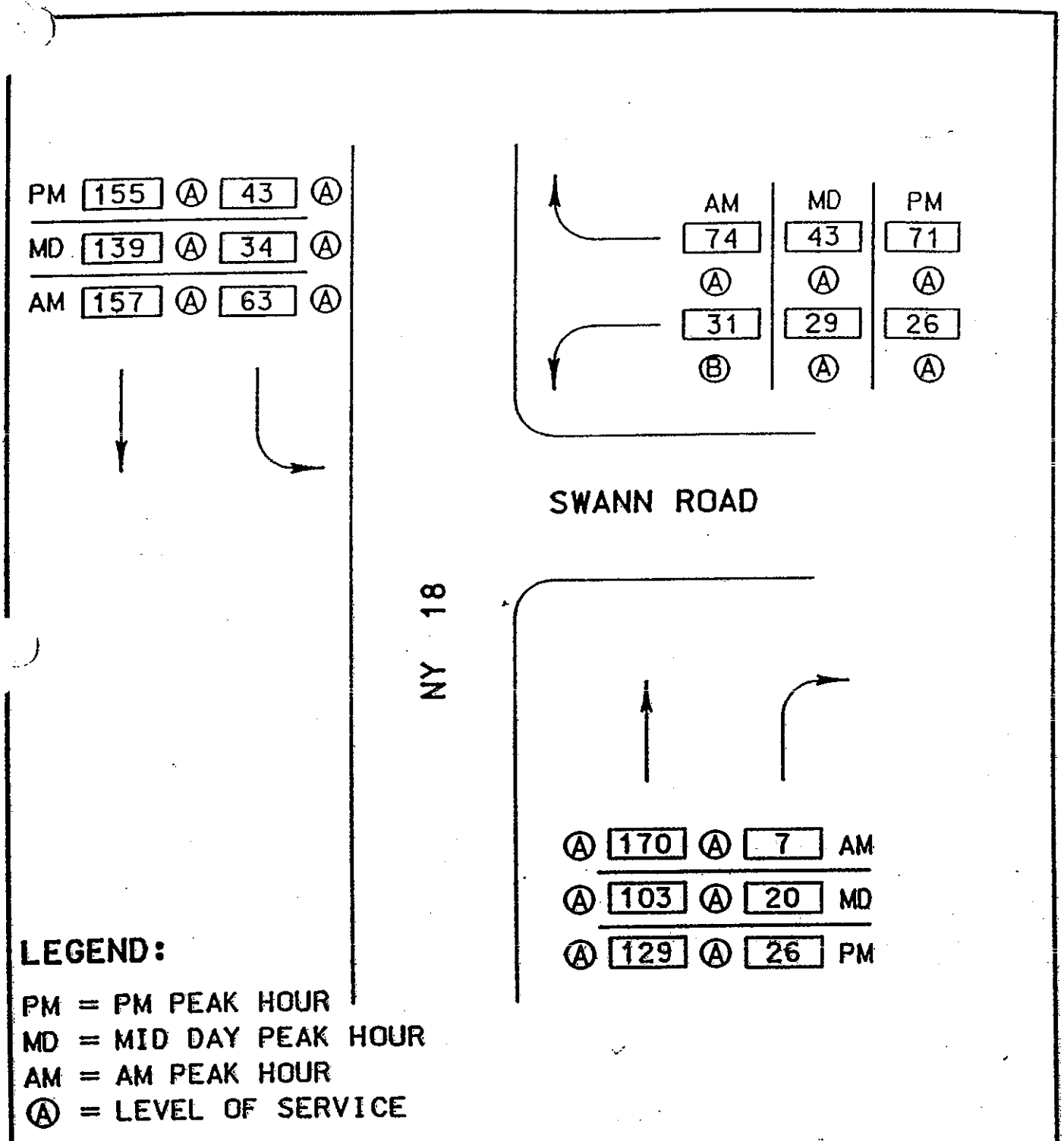
DAILY TRAFFIC COUNT data was collected for NY Routes 18 and 104 and Balmer Road by Bettigole Andrews & Clark, Inc. at five (5) locations, see Figure 2. The count data helped identify the peak hours of street traffic passing through the intersections. The traffic count data was collected during the month of May, 1992 and was recorded by roadway direction. Average weekday directional count in vehicles per day (vpd) for each count location (see Figure 4) are currently:

* NY 18
  (Location 4)
  South of NY 104 ----Northbound....3,390 vpd
  Southbound....3,213 vpd
  TOTAL.....6,603 vpd
  (Location 3)
  North of NY 104 ----Northbound....2,852 vpd
  Southbound....3,077 vpd
  TOTAL.....5,929 vpd
  (Location 1)
  South of Balmer ----Northbound....2,658 vpd
  Southbound....2,145 vpd
  TOTAL.....4,803 vpd

* NY 104
  (Location 5)
  South of NY 18 -----Northbound...11,861 vpd
  Southbound...12,911 vpd
  TOTAL.....24,772 vpd

* Balmer Road
  (Location 2)
  East of Balmer Road-----Eastbound.....1,084 vpd
  Westbound.....1,025 vpd
  TOTAL.....2,109 vpd

The peak hours and the percent of daily traffic occurring during each peak hour for each count location on NY 18 are tabulated in Table 1.



N.T.S.

CWM
CHEMICAL SERVICES, INC.
MODEL CITY, N.Y.
BETTIGOLE ANDREWS & CLARK, INC.
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FIGURE - 5
NY 18 - SWANN
EXISTING
PEAK HOUR
TURNS & LOS

TABLE 1

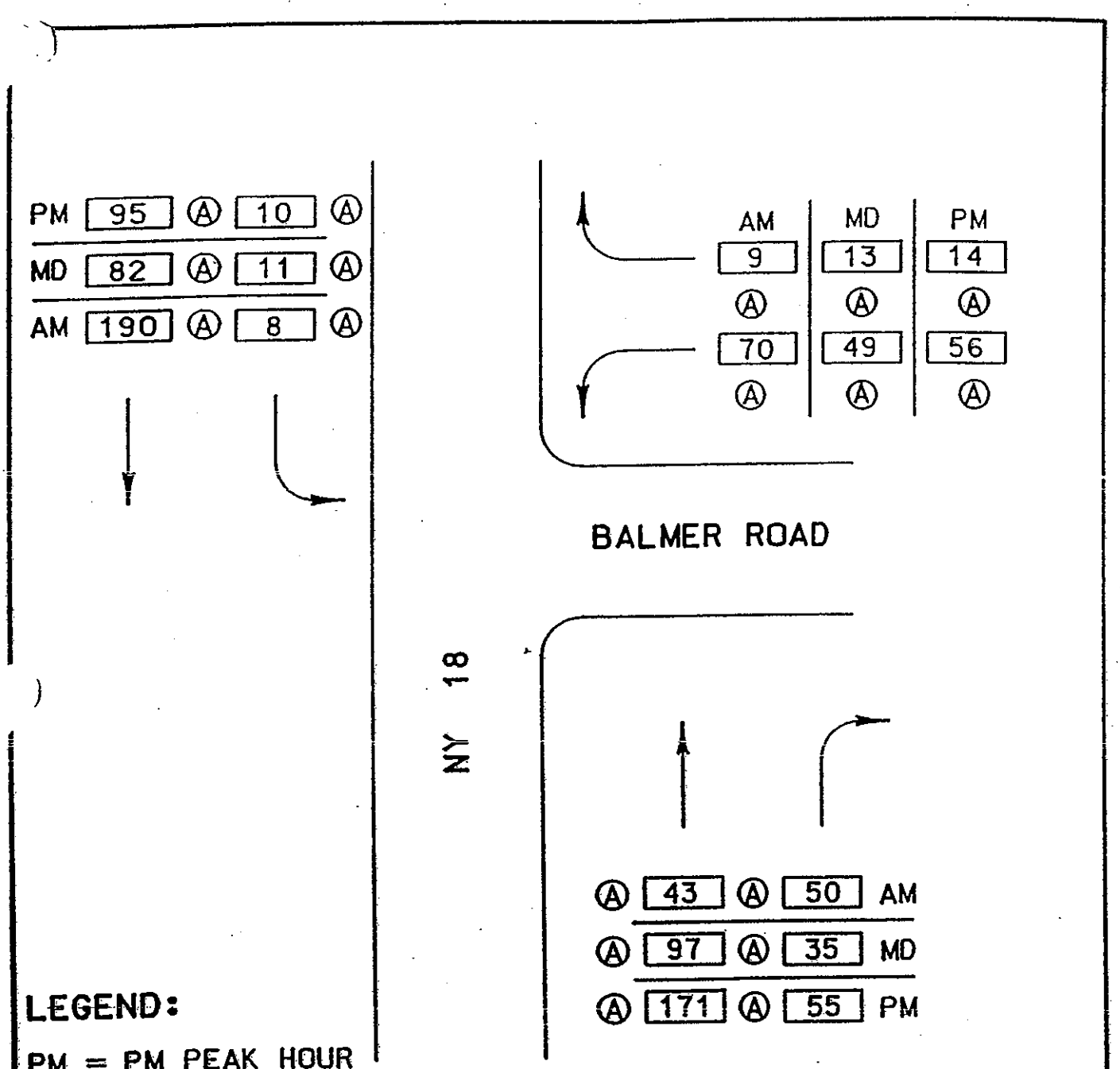
HIGHWAY SEGMENT
PEAK HOUR DATA

COUNT LOCATION	PEAK HOUR PERCENTAGE			PEAK HOUR		
	AM	MD	PM	AM	MD	PM
1	7	7	8	7:15-8:15	12:30-1:30	4:30-5:30
2	10	9	7	7:00-8:00	12:00-1:00	4:15-5:15
3	8	6	8	7:15-8:15	12:30-1:30	4:30-5:30
4	8	6	8	7:15-8:15	12:30-1:30	4:30-5:30
5	8	6	8	7:00-8:00	12:00-1:00	4:30-5:30

The counts taken in May, 1992 correspond to a time period that is representative of an average waste hauling to the landfill site, as depicted in the daily waste hauling figures listed in Table 2.

VEHICLE CLASSIFICATION information at each of the five machine count locations was collected by the Andrews & Clark, Inc. Vehicles were classified by four categories: a) automobiles, b) buses, c) single unit trucks with dual tires, and d) semi-tractor trailer trucks. The counts were conducted between the hours of 7:00-9:00 AM, 11:30 AM-1:30 PM, and 4:00-6:00 PM.

A summary of vehicle classification information for each peak hour at each count location is shown in Figures 6, 7, 8, 9 and 10.



LEGEND:

PM = PM PEAK HOUR
MD = MID DAY PEAK HOUR
AM = AM PEAK HOUR
Ⓐ = LEVEL OF SERVICE

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FIGURE - 3
NY 18-BALMER RD.
EXISTING
PEAK HOUR
TURNS & LOS

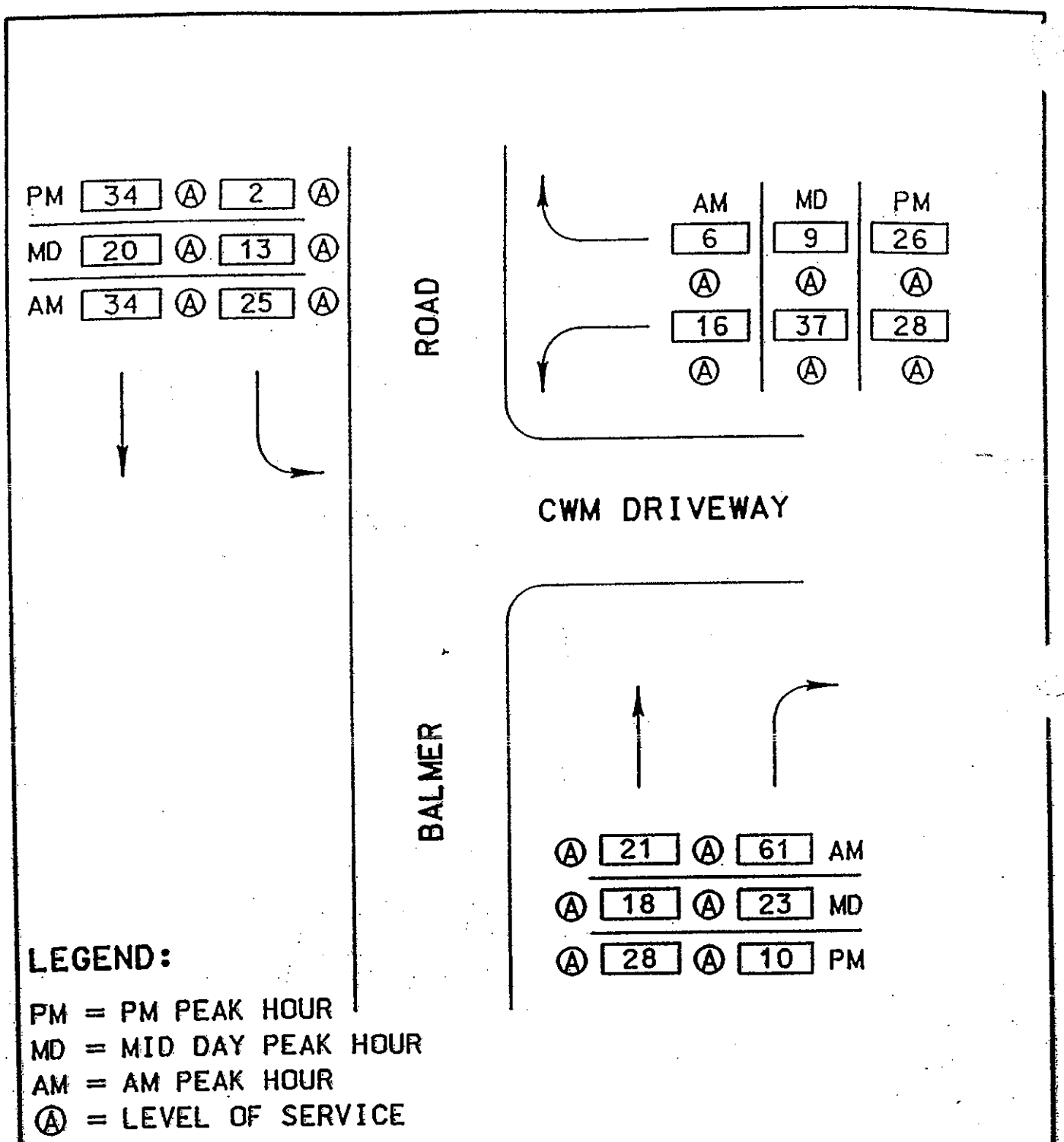

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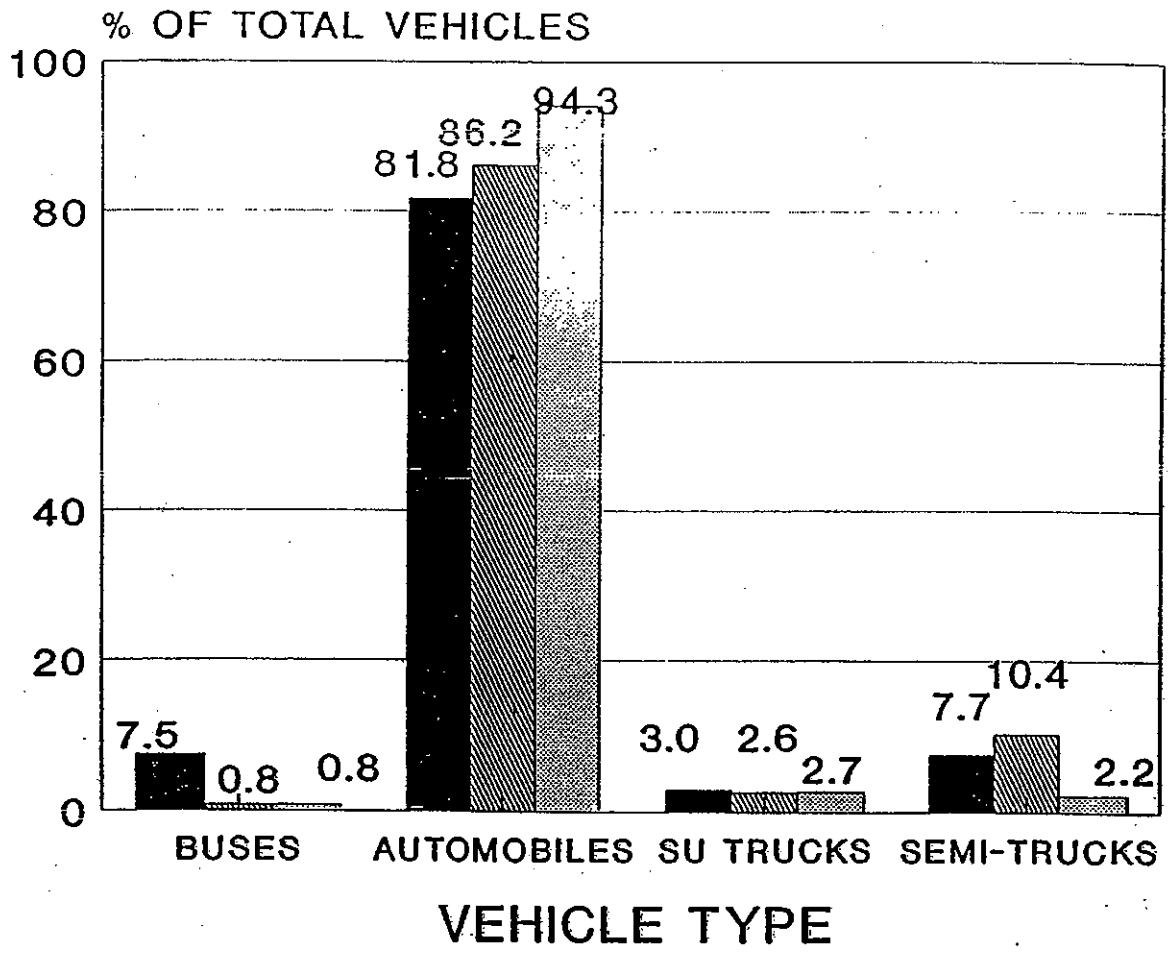
FIGURE - 4
BALMER RD. - CWM
EXISTING
PEAK HOUR
TURNS & LOS

TABLE 2

LOADS BY TYPE
RECEIVED AT CWM MODEL CITY
MAY, 1992

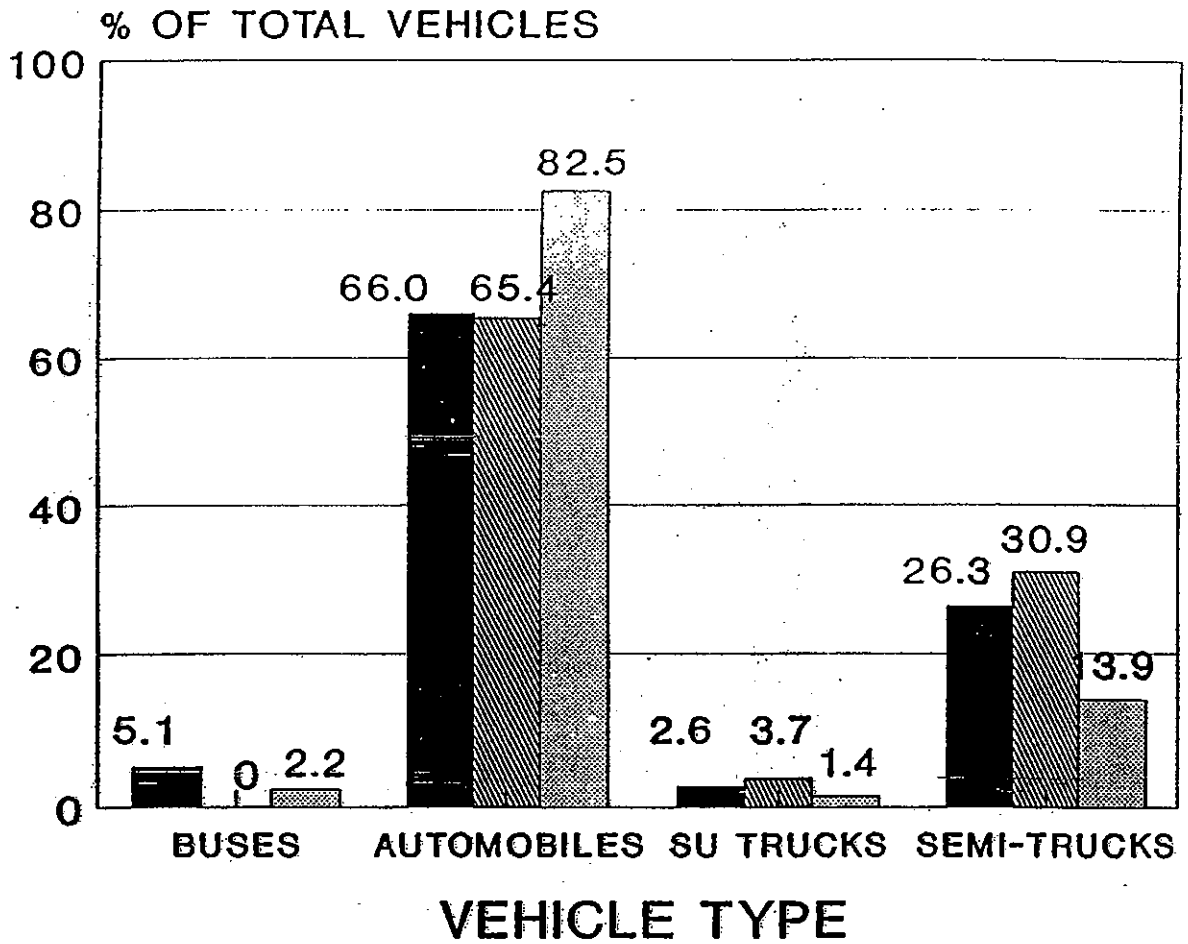
DAY	DRUMS	TANKERS	BULK RECEIPTS
1	8	0	74
2	0	0	45
3	-	-	-
4	8	1	34
5	6	0	122
6	3	1	103
7	6	2	212
8	3	0	84
9	0	0	47
10	-	-	-
11	4	1	69
12	8	0	93
13	1	1	99
14	6	1	91
15	3	2	119
16	0	0	37
17	-	-	-
18	3	2	69
19	5	1	75
20	8	1	83
21	9	0	103
22	2	0	111
23	-	-	-
24	-	-	-
25	-	-	-
26	1	0	47
27	2	0	75
28	6	0	91
29	6	0	67
30	-	-	-
31	-	-	-
TOTAL	98	13	1950

VEHICLE TYPES
ROUTE 18 - SOUTH OF BALMER ROAD



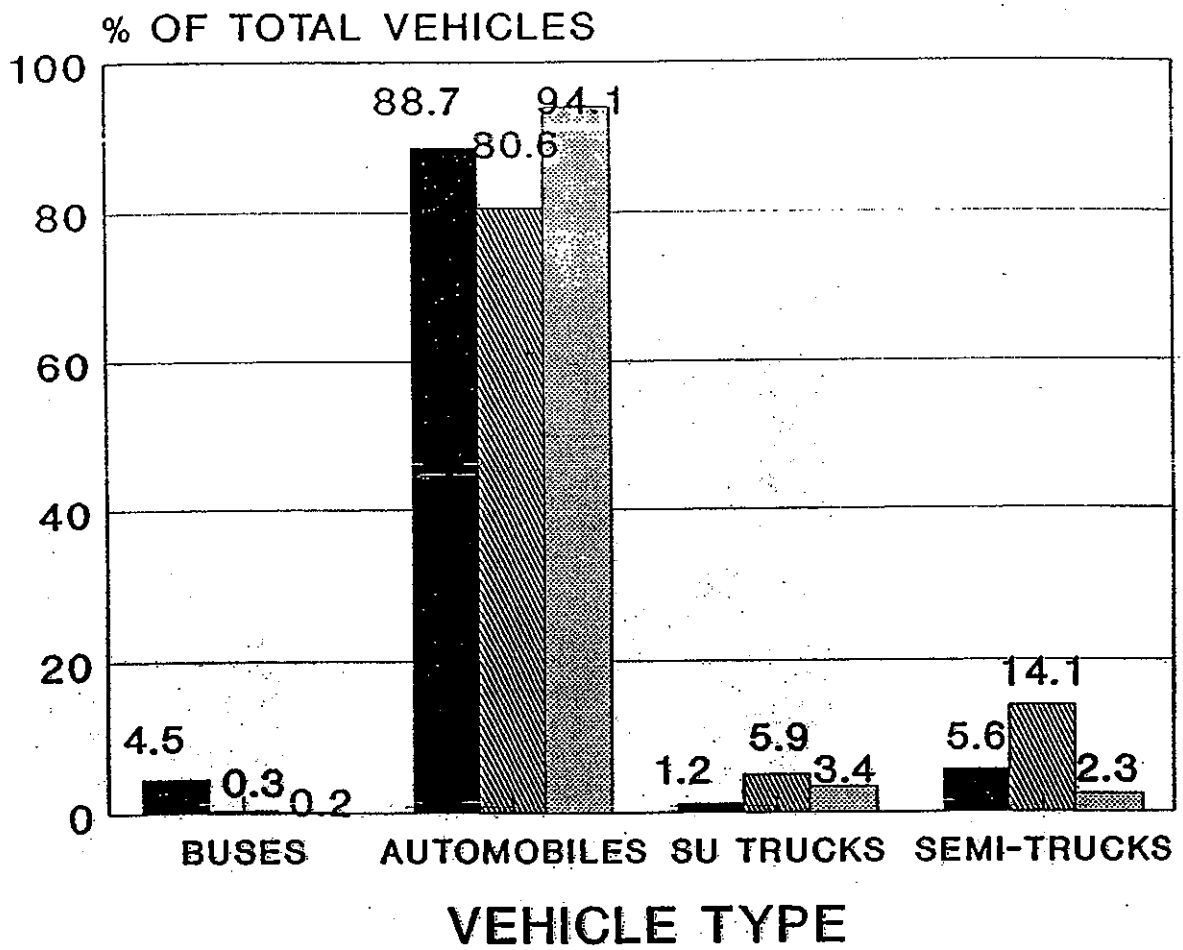
CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO, N.Y.	FIGURE – 6 EXISTING VEHICLE TYPES NY 18 SOUTH OF BALMER ROAD

VEHICLE TYPES
BALMER ROAD
EAST OF ROUTE 18



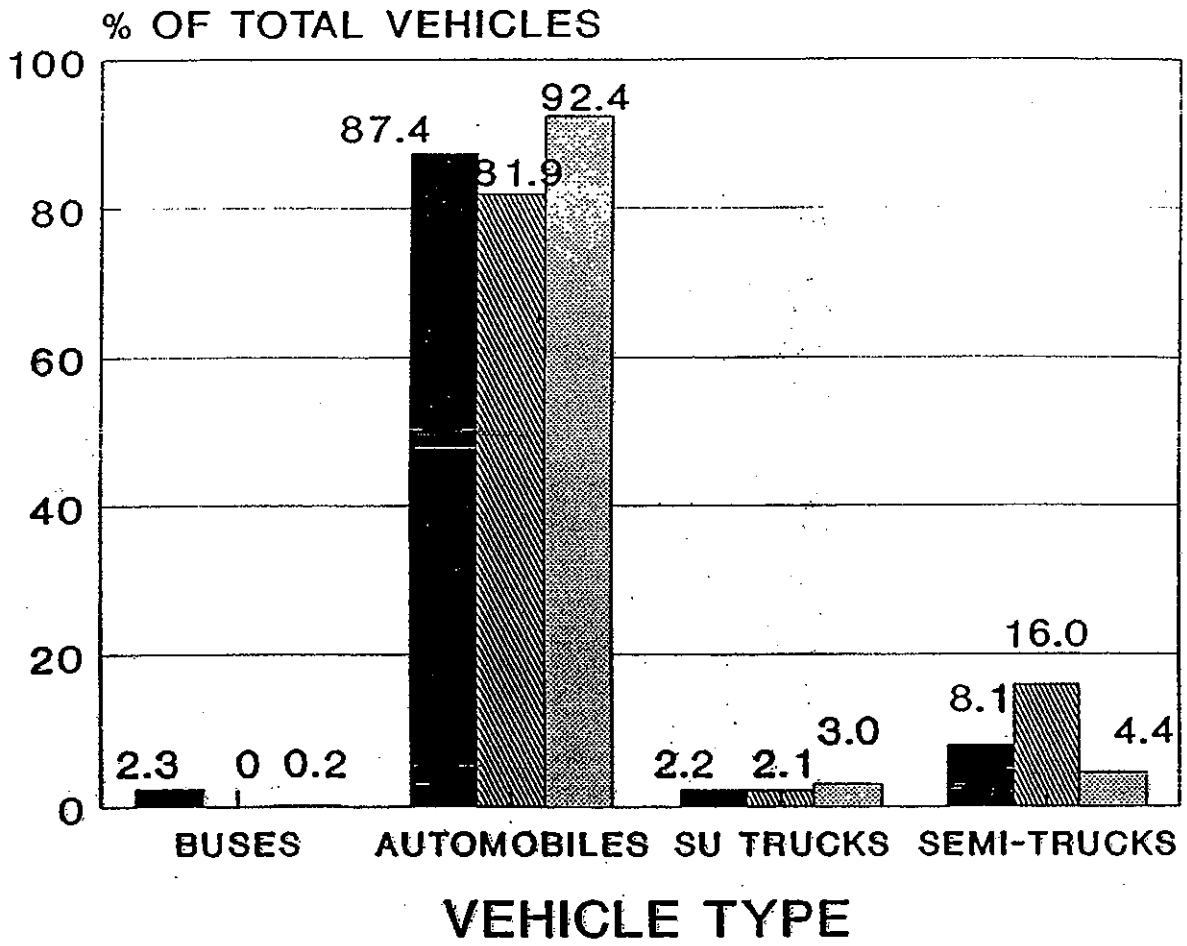
CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO. N.Y.	FIGURE – 7 EXISTING VEHICLE TYPES BALMER ROAD EAST OF ROUTE 18

VEHICLE TYPES
ROUTE 18 - NORTH OF ROUTE 104



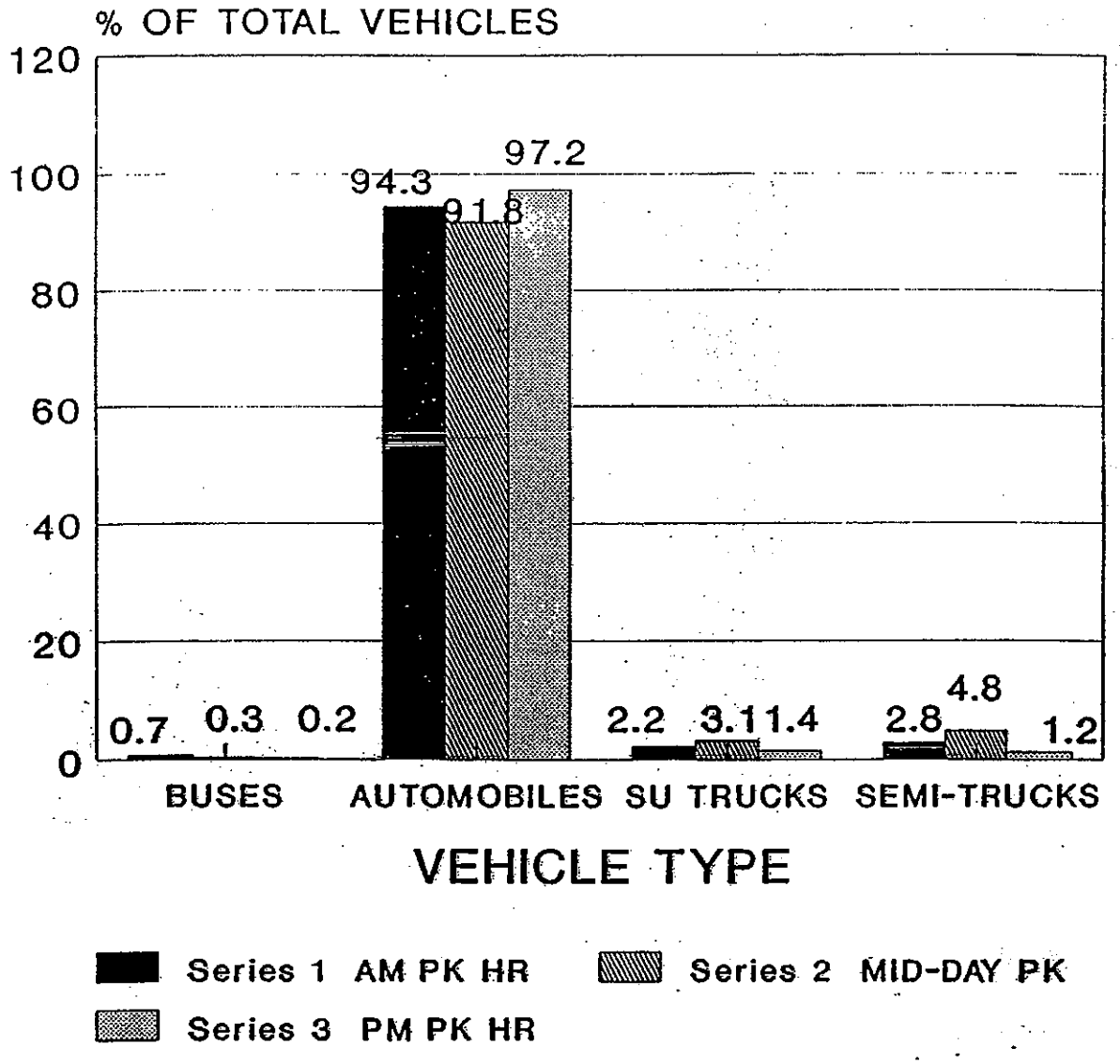
CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO, N.Y.	FIGURE – 8 EXISTING VEHICLE TYPES NY 18 NORTH OF ROUTE 104

VEHICLE TYPES
ROUTE 18 - SOUTH OF ROUTE 104



CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO, N.Y.	FIGURE – 9 EXISTING VEHICLE TYPES NY 18 SOUTH OF ROUTE 104

VEHICLE TYPES
ROUTE 104 - SOUTH OF ROUTE 18



CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO, N.Y.	FIGURE – 10 EXISTING VEHICLE TYPES NY 104 SOUTH OF ROUTE 18

Level of Service

Level of Service (LOS) analysis was performed for each of the three intersection and five machine count locations:

* Intersection of NY 18 and Swann Road.
* Intersection of Balmer Road and NY 18.
* Intersection of Balmer Road and CWM Driveway for trucks.

* Highway segment of NY 104 between NY 18 and I-190.
* Highway segment of NY 18 south of NY 104 overpass.
* Highway segment of NY 18 immediately north of NY 104 overpass.
* Highway segment of NY 18 immediately south of Balmer Road.
* Highway segment of Balmer Road east of NY 18.

The Level of Service analysis was conducted for three (3) traffic conditions:

* Existing Traffic--Traffic representing year 1992.

* Target Year Traffic without Construction--Traffic representing year 1993 without additive construction soil trucks.

* Target Year Traffic with Construction--Traffic representing year 1993 with additive construction soil trucks.

The Level of Service analysis was performed utilizing the procedures outlined in the most current version (1985) of the Highway Capacity Manual published by the Transportation Research Board. The procedures described in the Manual identify typical traffic conditions associated with different levels of service. The levels of service and corresponding traffic conditions are listed below:

Level of Service	Traffic Conditions
A	Favorable-little or no delay.
B	Good-short delays.
C	Average-average delays.
D	Some congestion-long delays.
E	Very long delays.
F	Severe congestion-extreme delays.

Level of Service "C" is considered desirable from a traffic engineering viewpoint, while "D" is considered acceptable but not desirable. Level of Service "E" is usually not acceptable and "F" is not acceptable and is generally considered from a traffic analysis viewpoint conditions needing mitigation measures.

Results of the Level of Service (LOS) analysis for the intersection Existing Traffic Condition are shown in Figures 3, 4 and 5. Existing traffic condition level of service results for highways segments are tabulated in Table 3. Computational results of the level of service analysis are contained in Appendix A.

TABLE 3

HIGHWAY SEGMENT - EXISTING (1992) LEVEL OF SERVICE

HIGHWAY SEGMENTS		PEAK HOURS		
		AM	MD	PM
RTE 18 - SOUTH OF BALMER ROAD		B	B	B
RTE 18 - NORTH OF NY 104 OVERPASS		B	B	B
RTE 18 - SOUTH OF NY 104 OVERPASS		C	B	B
BALMER ROAD - EAST OF NY 18		B	A	A
NY 104 - SOUTH OF NY 18	NB	A	A	B
	SB	C	A	A

Highway segment level of service results, Table 3, for Existing traffic conditions are generally "A" or "B". The exception being LOS "C" which occurs on two highway segments during the AM peak hour: Route 18 south of NY 104 overpass and NY 104 southbound south of NY 18.

Levels of service condition at intersections for Existing traffic conditions are "A" for all peak hours except for one situation,

See Figures 3, 4 and 5. The exception is LOS "B" at the intersection of NY 18 - Swann Road during the AM peak hour for westbound left turns. The magnitude of left turns at the stop sign and the magnitude of northbound and southbound through traffic accounts for the LOS "B" traffic operation condition.

Prior to performing level of service analysis for the Target Year traffic conditions, intersection turning movements and highway segment traffic volumes for the three (3) peak hours (AM, MID_DAY and PM) were developed for two traffic scenarios:

* Target Year (1993) - <u>without</u> construction truck traffic added to the transportation route.
* Target Year (1993) - <u>with</u> construction truck traffic added to the transportation route.

The process of developing Target Year turning movements and highway segment traffic volumes for each of the two traffic scenarios involved increasing the Existing 1992 turns and volumes to represent the target year turns by applying an annual traffic growth factor. The growth factor was developed for the roads considered based on existing count data collected and historical count data supplied by the New York State Department of Transportation. Annual traffic growth rates determined from the comparisons of counts for each street were:

* NY 104 . . . . . 3%
* NY 18 . . . . . 4%
* Balmer Road 2%

The process of developing turning movements and highway segment traffic for the appropriate target year also involved superimposing (adding) site generated construction truck trips to the adjusted existing turns and segment traffic to reflect the construction phase of the proposed development. The site generated truck trips (33 trucks per hour in each direction) were assigned to the transportation route. The assigned site generated construction truck trips represent additive traffic to the overall street system and were added to the adjusted existing traffic to yield total traffic for the construction phase of the project.

AM, MID-DAY and PM peak hour turning movements along with results of the Level of Service analysis for the <u>*Target Year*</u> (1993) - <u>*without construction truck traffic*</u> are shown in Figures 11, 12, and 13. This is considered 1993 Background traffic.

AM, MID-DAY and PM peak hour turning movements along with results of the Level of Service analysis for the <u>*Target Year*</u> (1993) - <u>*with construction truck traffic*</u> are shown in Figures 14, 15 and 16. This is considered 1993 Background plus soil (construction) truck traffic.

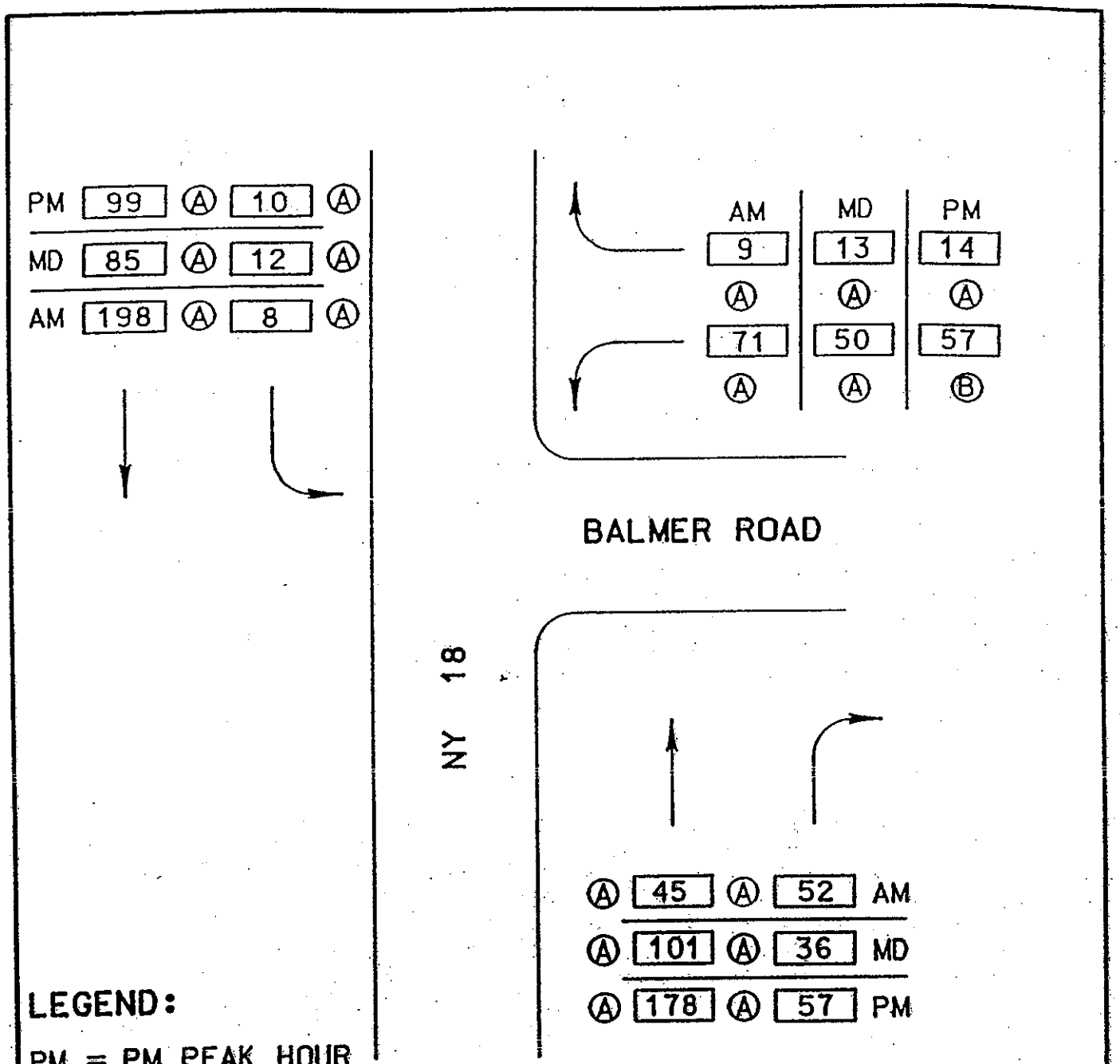


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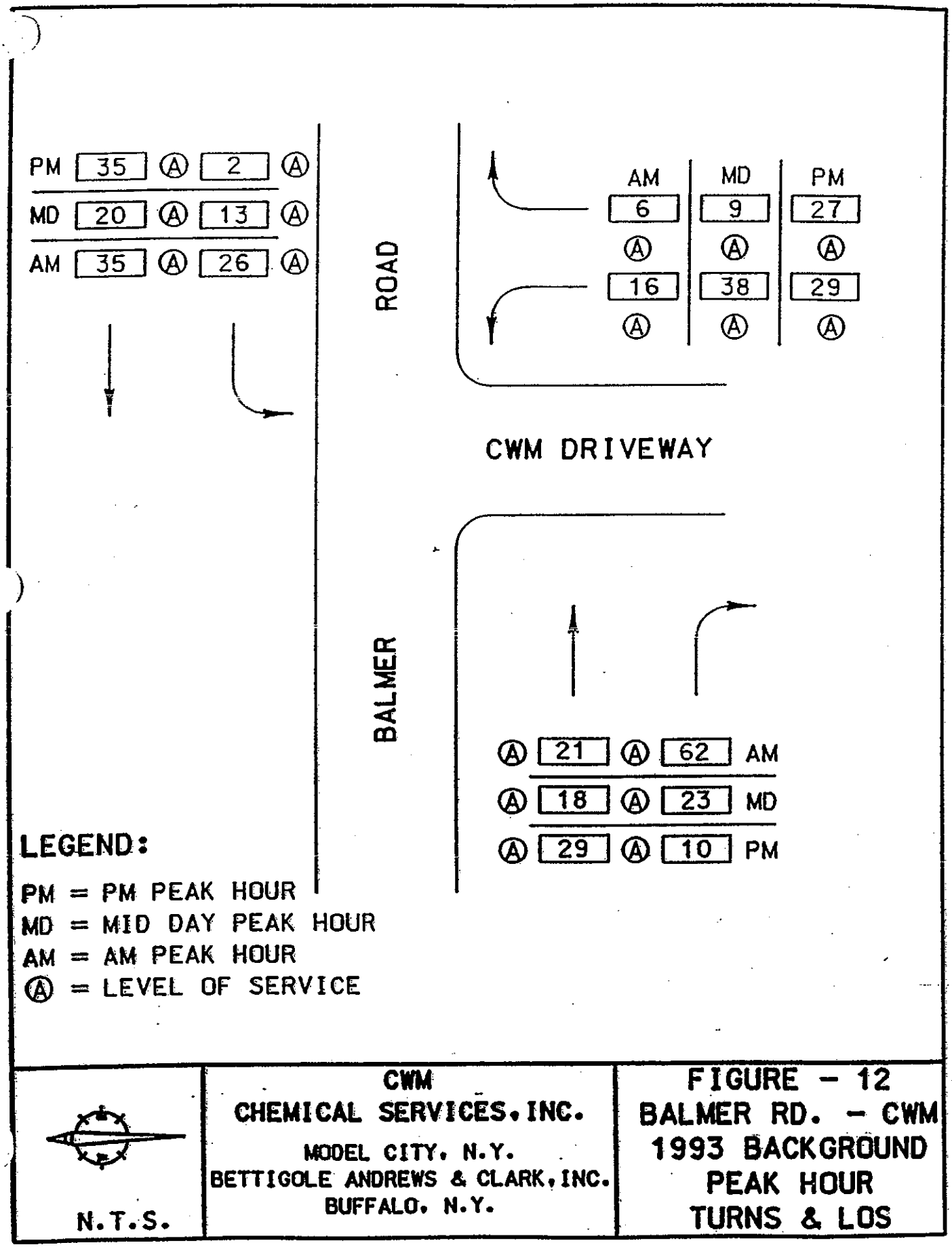
FIGURE - 11
NY 18-BALMER RD.
1993 BACKGROUND
PEAK HOUR
TURNS & LOS



N.T.S.	CWM CHEMICAL SERVICES. INC. MODEL CITY. N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO. N.Y.	FIGURE - 12 BALMER RD. - CWM 1993 BACKGROUND PEAK HOUR TURNS & LOS

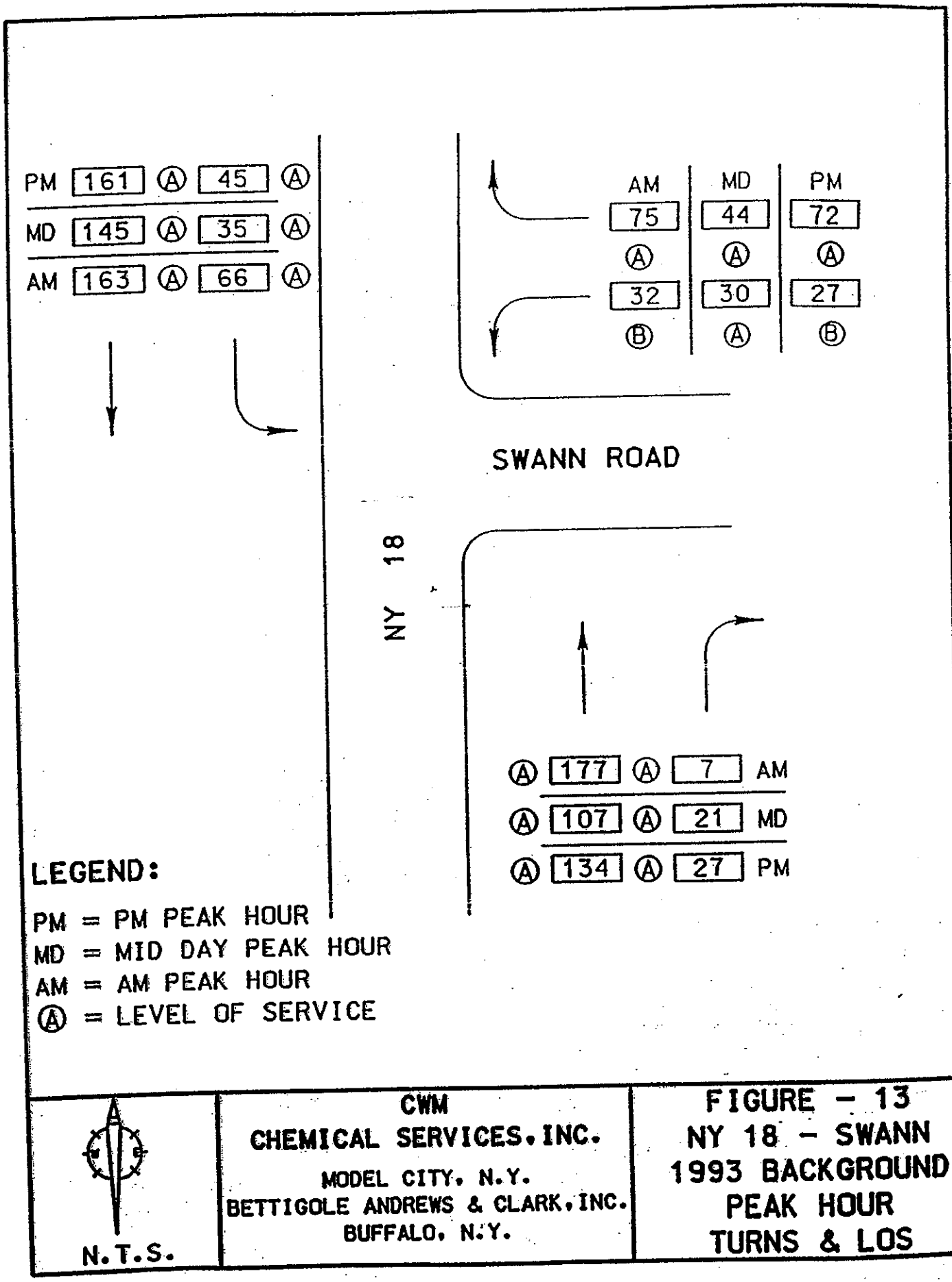


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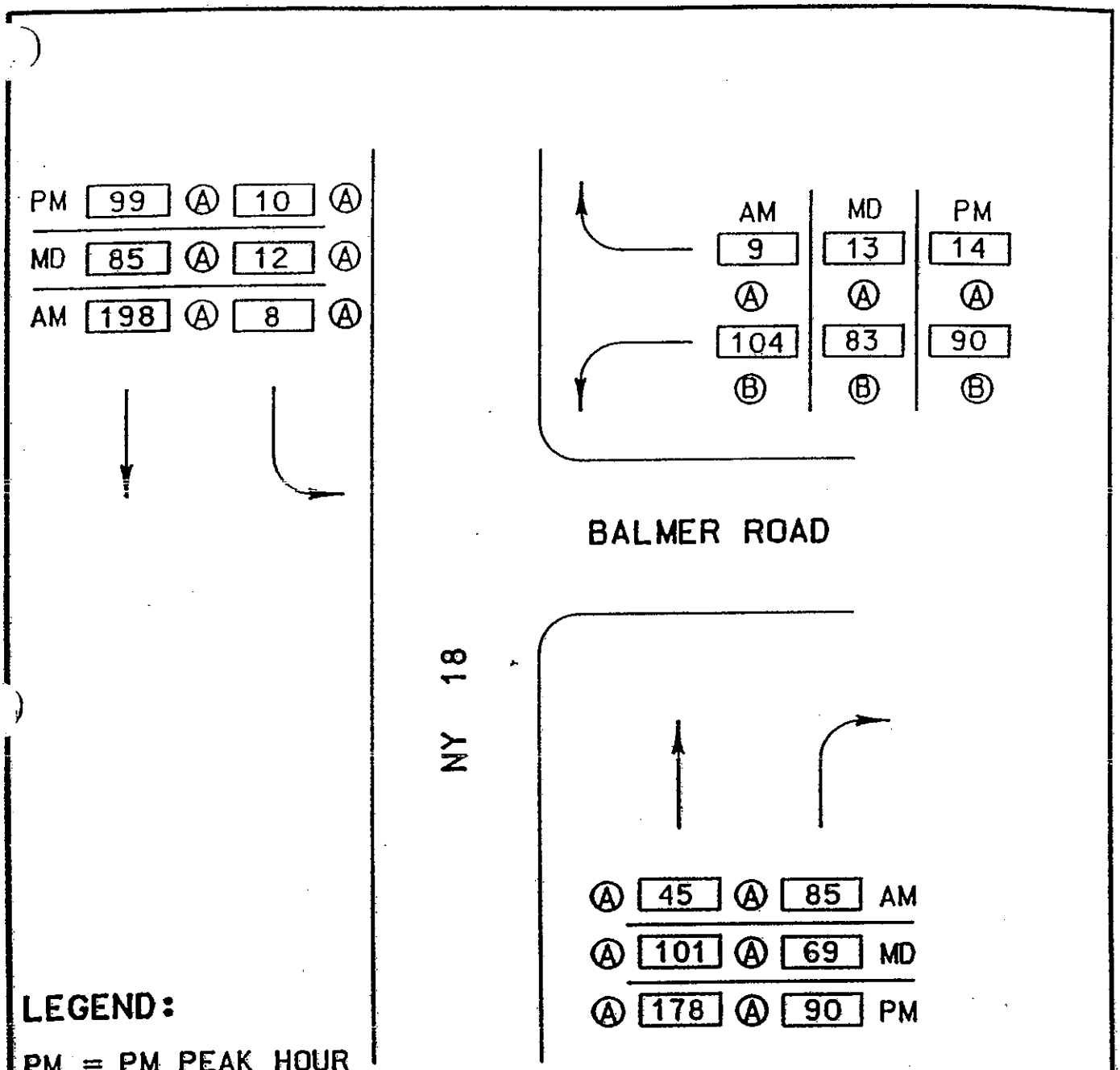
FIGURE - 13
NY 18 - SWANN
1993 BACKGROUND
PEAK HOUR
TURNS & LOS



LEGEND:

PM = PM PEAK HOUR
MD = MID DAY PEAK HOUR
AM = AM PEAK HOUR
Ⓐ = LEVEL OF SERVICE

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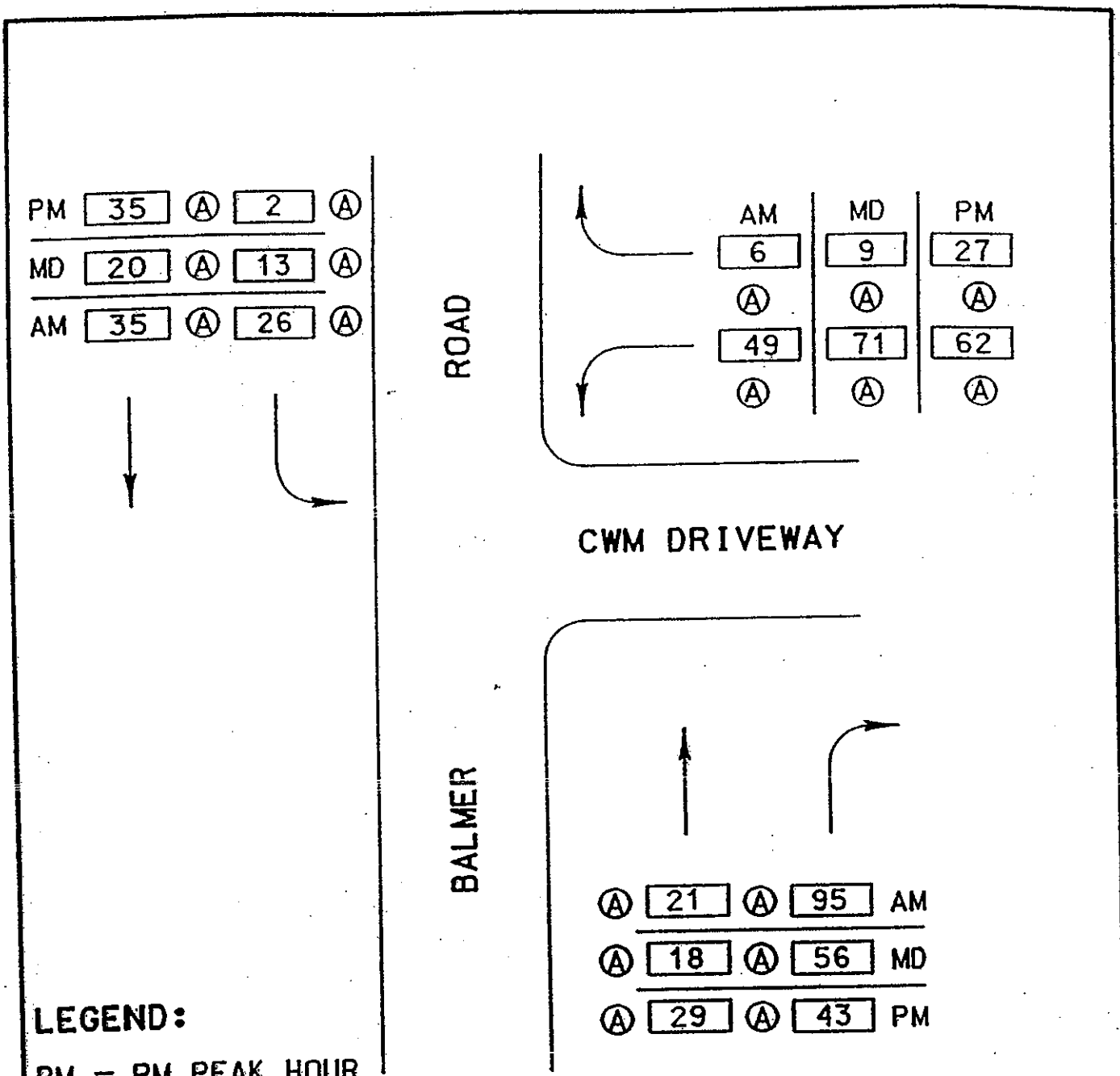
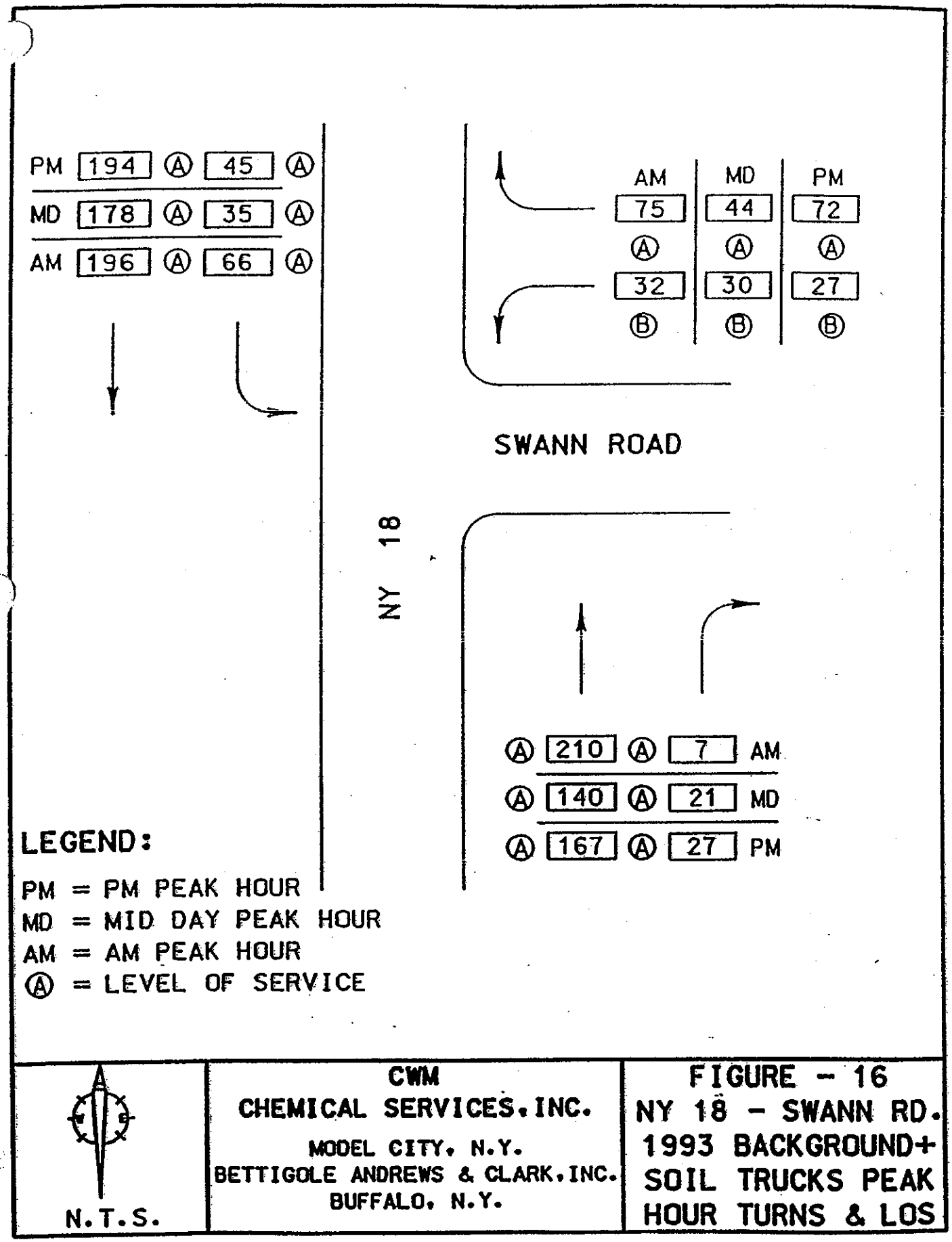
FIGURE - 14
NY 18-BALMER RD.
1993 BACKGROUND+ SOIL TRUCKS PEAK HOUR TURNS & LOS



N.T.S.	CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO, N.Y.	FIGURE - 15 BALMER RD. - CWM 1993 BACKGROUND+ SOIL TRUCKS PEAK HOUR TURNS & LOS



N.T.S.	CWM CHEMICAL SERVICES, INC. MODEL CITY, N.Y. BETTIGOLE ANDREWS & CLARK, INC. BUFFALO, N.Y.	FIGURE - 16 NY 18 - SWANN RD. 1993 BACKGROUND+ SOIL TRUCKS PEAK HOUR TURNS & LOS

Levels of service condition at intersections for 1993 Background traffic conditions are "A" for all peak hours except for two situations, see Figures 11, 12 and 13. The exceptions are LOS "B". They occur at the intersection of NY 18 - Swann Road during the AM peak hour for westbound left turns and at the intersection NY 18 - Balmer Road during the PM peak hour for westbound left turns. The magnitude of left turns at the stop sign and the magnitude of northbound and southbound through traffic accounts for the LOS "B" traffic operation condition.

Levels of service condition at intersections for 1993 Background plus soil (construction) truck traffic conditions are "A" for all peak hours except for two left turn movements, see Figures 14, 15 and 16. The exceptions are LOS "B". They occur at the intersections of NY 18 - Swann Road and NY 18 - Balmer Road during the AM, MID_DAY and PM peak hours for westbound left turns. The magnitude of left turns at the stop sign and the magnitude of northbound and southbound through traffic accounts for the LOS "B" traffic operation condition.

Target year 1993 Background traffic condition level of service results for highway segments are tabulated in Table 4. Computational results of the level of service analysis for the intersections and road segments for the target Year 1993 Background traffic conditions without construction trucks are contained in Appendix B.

TABLE 4

HIGHWAY SEGMENT - 1993 BACKGROUND - LEVEL OF SERVICE

HIGHWAY SEGMENTS		PEAK HOURS		
		AM	MD	PM
RTE 18 - SOUTH OF BALMER ROAD		B	B	B
RTE 18 - NORTH OF NY 104 OVERPASS		B	B	B
RTE 18 - SOUTH OF NY 104 OVERPASS		C	B	B
BALMER ROAD - EAST OF NY 18		B	A	A
NY 104 - SOUTH OF NY 18	NB	A	A	C
	SB	C	A	A

Highway segment level of service results, Table 4, for 1993 Background traffic conditions are generally "A" or "B". The exception being LOS "C" which occurs on two highway segments: Route 18 south of NY 104 overpass and NY 104 southbound south of NY 18 during the AM peak hour, and NY 104 northbound south of NY 18 during the PM peak hour.

Target year 1993 Background plus soil truck traffic condition level of service results for highway segments are tabulated in Table 5. Computational results of the level of service analysis for the Target Year 1993 traffic condition with construction trucks for the intersections and road segments are contained in Appendix C.

TABLE 5

HIGHWAY SEGMENT - 1993 BACKGROUND + SOIL TRUCKS - LEVEL OF SERVICE

HIGHWAY SEGMENTS		PEAK HOURS		
		AM	MD	PM
RTE 18 - SOUTH OF BALMER ROAD		B	B	B
RTE 18 - NORTH OF NY 104 OVERPASS		C	B	C
RTE 18 - SOUTH OF NY 104 OVERPASS		C	C	C
BALMER ROAD - EAST OF NY 18		B	B	B
NY 104 - SOUTH OF NY 18	NB	A	B	C
	SB	C	B	A

Highway segment level of service results, Table 5, for 1993 Background plus soil (construction) truck traffic conditions are generally "A" or "B". The exception being LOS "C" which occurs on three highway segments: Route 18 north of NY 104 overpass during the AM and PM peak hours; Route 18 south of NY 104 overpass; and NY 104 southbound south of NY 18 during the AM peak hour, and NY 104 northbound south of NY 18 during the PM peak hour.

Accident Experience

Accident data was obtained from the Niagara County Sheriff Department for the three major highways of the designated transportation route: NY 104, NY 18 and Balmer Road. The accident data covers the three years 1989, 1990 and 1991. A summary of the accident occurrences is contained in Table 6.

The accident occurrence over the past three years along the designated transportation route is widely dispersed. The only possible focal point of accidents is at the intersection of NY 104 and NY 265 during the last year, 1991. Most of the accidents at this location involved left turning vehicles from NY 104 onto NY 265 - failure to yield right of way. Others were rear-end accidents on the NY 265 approach to the intersection.

Accidents at the intersection of NY 18 and Swann were primarily single vehicles that did not stop at the stop sign on Swann and hit the guide rail on the west side of NY 18. Other accidents along NY 18 involved turning vehicles that did not yield right of way to oncoming traffic or vehicles rear-ending turning vehicles.

The distribution of accidents by season of the year is:

Winter (Nov., Dec., Jan., Feb., March)	43%
Non-Winter (All other months)	57%

Accidents occurring by lighting conditions - daylight vs darkness were as follows:

Daylight	57%
Darkness	43%

The pattern of accidents by day of the week is:

Sunday	12%
Monday	7%
Tuesday	17%
Wednesday	11%
Thursday	10%
Friday	24%
Saturday	19%

The overall pattern of accidents by season of year, lighting conditions and day of week do not vary significantly from normal traffic volume patterns. Information on the accident reports indicate there is not a particular problem with the highway system. The preponderance of the accidents occurred due to driver failure to yield right of way when sufficient sight distance existed or did not have the vehicle under control.

TABLE 6

ACCIDENT OCCURRENCES

LOCATIONS	YEAR 1989 TYPE PD*	YEAR 1989 TYPE BI*	YEAR 1990 TYPE PD	YEAR 1990 TYPE BI	YEAR 1991 TYPE PD	YEAR 1991 TYPE BI
INTERSECTIONS						
NY 104/NY 265	3		1		6	2
NY 18/NY 104 OVERPASS	2		2		1	
NY 18/SWANN	1	1	1		2	
NY 18/PLETCHER	2	2	2			
NY 18/LEW-PORT SCHOOL DRIVES	1	1	1	1		
NY 18/CALKINS	1					2
NY 18/BALMER	1				1	1
BALMER/LUTTS	2					
SUBTOTAL	**13**	**4**	**7**	**1**	**10**	**5**
HIGHWAY SEGMENTS						
NY 104					2	
NY 18 - SOUTH OF NY 104					1	
NY 18 - NY 104 TO SWANN	2		2	1	1	2
NY 18 - SWANN TO BALMER		1	2		4	
SUBTOTAL	**2**	**1**	**4**	**1**	**8**	**2**
TOTAL	**15**	**5**	**11**	**2**	**18**	**7**

* PD = Property Damage only, BI = Bodily Injury

Sight Distance

Sight distance at the intersections of Balmer Road with NY 18, the existing drive to the CWM site with Balmer Road, NY 18 with Swann Road and NY 18 with Lewiston-Porter School complex driveways were determined and analyzed. Because of the level terrain and clear shoulder widths, vehicles exiting the existing driveways and streets onto NY 18 and Balmer Road have minimum sight distances of 1000 feet.

Guidelines for STOPPING SIGHT DISTANCES are defined in **A POLICY on GEOMETRIC DESIGN of HIGHWAYS and STREETS**, 1990, prepared by the AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO). Stopping Sight Distances recommended for operating speeds determined for NY 104, NY 18 and Balmer Road are as follows:

OPERATING SPEEDS (mph)	RECOMMENDED STOPPING SIGHT DISTANCES (ft)
40	325
45	400
50	475
55	550

Based on comparisons of measured with recommended, adequate Stopping Sight Distances exist along NY 104, NY 18 and Balmer Road at the four locations considered for this study.

ADDITIVE TRUCK TRAFFIC

The condition when traffic operations level of service would decrease succeeding levels of service from the 1993 Background traffic conditions was investigated for the designated transportation route. The number of additional trucks required to reduce the level of service for each of the five highway segments and three intersections considered was determined. This was performed for all three peak hour conditions: AM, MID-DAY and PM.

The results are expressed in a range of values. Traffic operations are expected to change at or about that range, not precisely at some specific number. The results for Highway Segments - AM peak hour are contained in Table 7, those for the MID-DAY peak hour in Table 8, and those for the PM peak hour in Table 9. The results for Intersection Critical Approaches (those traffic movements controlled by STOP signs) - AM peak hour are contained in Table 10, those for MID_DAY peak hour in Table 11, and those for the PM peak hour in Table 12.

The additive truck analysis indicate a wide range of trucks can change the level of service for a highway segment or intersection approach. The range is contingent on the Level of Service for 1993 Background traffic and the magnitude of traffic depicting a particular level of service. In some instances, very little traffic is needed to change the level of service, while for other circumstances, based on the 1993 Background traffic volume, much more traffic is required to be added before the level of service changes.

Results for highway segments indicate that the most critical condition, in terms of the fewest number of trucks added to the transportation route that changes level of service, is for northbound NY 104 during the MID-DAY peak hour (see Table 8) and for NY 18 south of NY 104 Overpass during the PM peak hour (see Table 9). A range of 10 - 20 trucks is sufficient to change the level of service. As a point of reference for traffic operations that cause concern for traffic engineering improvements, Level of Service "D" would occur if 50 - 60 trucks were added during the AM peak hour for southbound NY 104, otherwise a significant number of trucks would need to be added to the transportation route to cause Level of Service "D" conditions.

Similar results shown in Tables 10 - 12 for critical intersection approaches, indicate 5 - 15 trucks would cause a change in level of service during the AM and PM peak hours for westbound traffic on Balmer Road at NY 18. Otherwise, a minimum of 80 - 90 trucks would need to added to the transportation route per hour to cause Level of Service "D" traffic operation conditions for a critical intersection approach.

TABLE 7

HIGHWAY SEGMENT – AM PEAK HOUR
ADDITIONAL TRUCKS TO CHANGE LEVEL OF SERVICE
FOR 1993 BACKGROUND TRAFFIC

HIGHWAY SEGMENT	1993 BACKGROUND TRAFFIC LOS	ADDITIONAL TRUCKS TO CHANGE LOS TO				
		B	C	D	E	F
NY 104 – MULTILINE						
NB – SOUTH OF NY 18	A	105–115	270–280	400–420	500–530	710–740
SB – SOUTH OF NY 18	C			50–60	210–220	390–410
RTE 18 – SOUTH OF 104 OVERPASS	C			150–160	470–490	910–960
RTE 18 – NORTH OF 104 OVERPASS	B		20–30	200–210	490–510	920–970
RTE 18 – SOUTH OF BALMER ROAD	B		70–80	260–280	550–580	1000–1050
BALMER ROAD – EAST OF NY 18	B		75–85	210–220	580–610	1050–1100

TABLE 8

HIGHWAY SEGMENT – MID–DAY PEAK HOUR
ADDITIONAL TRUCKS TO CHANGE LEVEL OF SERVICE
FOR 1993 BACKGROUND TRAFFIC

HIGHWAY SEGMENT	1993 BACKGROUND TRAFFIC LOS	ADDITIONAL TRUCKS TO CHANGE LOS TO				
		B	C	D	E	F
NY 104 – MULTILINE						
NB – SOUTH OF NY 18	A	10–20	160–170	310–330	440–460	610–640
SB – SOUTH OF NY 18	A	20–30	175–185	310–330	440–460	620–650
RTE 18 – SOUTH OF 104 OVERPASS	B		60–70	240–250	520–550	970–1020
RTE 18 – NORTH OF 104 OVERPASS	B		90–100	270–280	560–590	1010–1060
RTE 18 – SOUTH OF BALMER ROAD	B		110–120	300–310	580–610	1040–1090
BALMER ROAD – EAST OF NY 18	A	20–30	140–150	360–380	650–680	1100–1150

TABLE 9

HIGHWAY SEGMENT – PM PEAK HOUR
ADDITIONAL TRUCKS TO CHANGE LEVEL OF SERVICE
FOR 1993 BACKGROUND TRAFFIC

HIGHWAY SEGMENT	1993 BACKGROUND TRAFFIC LOS	ADDITIONAL TRUCKS TO CHANGE LOS TO				
		B	C	D	E	F
NY 104 – MULTILINE						
NB – SOUTH OF NY 18	C			135–145	260–270	440–460
SB – SOUTH OF NY 18	A	50–60	210–220	350–370	480–500	670–700
RTE 18 – SOUTH OF 104 OVERPASS	B		10–20	195–205	480–500	920–970
RTE 18 – NORTH OF 104 OVERPASS	B		45–55	230–240	510–540	950–1000
RTE 18 – SOUTH OF BALMER ROAD	B		110–120	260–280	570–600	1020–1070
BALMER ROAD – EAST OF NY 18	A	55–65	165–195	370–390	660–710	1130–1180

TABLE 10

HIGHWAY INTERSECTION CRITICAL APPROACH – AM PEAK HOUR
ADDITIONAL TRUCKS TO CHANGE LEVEL OF SERVICE
FOR 1993 BACKGROUND TRAFFIC

HIGHWAY INTERSECTION CRITICAL APPROACH	1993 BACKGROUND TRAFFIC LOS	TRUCKS ADDED TO TRANSPORTATION ROUTE TO CHANGE LOS TO:				
		B	C	D	E	F
BALMER ROAD / CWM DRIVE NORTHBOUND APPROACH	A	70–80	110–120	150–160	190–200	240–250
BALMER ROAD / NY 18 WESTBOUND APPROACH	A	5–15	40–50	80–90	125–135	170–180
NY 18 / SWANN ROAD WESTBOUND APPROACH	A	80–90	240–250	400–420	620–650	960–1000

TABLE 11

HIGHWAY INTERSECTION CRITICAL APPROACH – MID–DAY PEAK HOUR
ADDITIONAL TRUCKS TO CHANGE LEVEL OF SERVICE
FOR 1993 BACKGROUND TRAFFIC

HIGHWAY INTERSECTION CRITICAL APPROACH	1993 BACKGROUND TRAFFIC LOS	TRUCKS ADDED TO TRANSPORTATION ROUTE TO CHANGE LOS TO:				
		B	C	D	E	F
BALMER ROAD / CWM DRIVE NORTHBOUND APPROACH	A	70–80	110–120	155–165	200–210	240–250
BALMER ROAD / NY 18 WESTBOUND APPROACH	A	35–45	75–85	120–130	165–175	205–215
NY 18 / SWANN ROAD WESTBOUND APPROACH	A	200–210	360–380	540–570	680–720	1160–1210

TABLE 12

HIGHWAY INTERSECTION CRITICAL APPROACH – PM PEAK HOUR
ADDITIONAL TRUCKS TO CHANGE LEVEL OF SERVICE
FOR 1993 BACKGROUND TRAFFIC

HIGHWAY INTERSECTION CRITICAL APPROACH	1993 BACKGROUND TRAFFIC LOS	TRUCKS ADDED TO TRANSPORTATION ROUTE TO CHANGE LOS TO:				
		B	C	D	E	F
BALMER ROAD / CWM DRIVE NORTHBOUND APPROACH	A	90–100	140–150	180–190	220–230	260–270
BALMER ROAD / NY 18 WESTBOUND APPROACH	A	5–15	40–50	80–90	125–135	170–180
NY 18 / SWANN ROAD WESTBOUND APPROACH	A	180–190	340–360	520–540	720–760	1160–1210

FINDINGS

Level of service analysis for the three intersections and five highway segments indicates that all intersections and highway segments are operating at acceptable levels of service during all three peak hours considered for both Existing and 1993 Background traffic conditions. Some level of service changes did occur when construction trucks were added to the 1993 Background traffic, but the change was not more than one level and in no situation was the change more than Level of Service "C". The level of service results varied between LOS "A" to "C". These results indicate that neither geometric nor traffic control changes are warranted from a traffic operations level of service perspective.

The sight distance analysis indicated that more than adequate distance is available for visibility and stopping purposes. Sufficient distance is available for drivers to observe oncoming vehicles before turning onto NY 18.

Accident data for the three years considered does not indicate a pattern of accident occurrence that can be attributed to a geometric, traffic control or highway surface condition and therefore a specific highway safety problem. The pattern and distribution of accidents is similar to the distribution of traffic during a 24 hour period, and accident occurrences typical for the seasons of the year.

The additive peak hour truck traffic required to reduce the level of service varied by peak hour and highway segment and critical intersection approach, depending on the 1993 Background level of service. The number of trucks necessary to change the level of service is a function of how close the existing level of service is to the borderline of changing. For some highway segments and intersections, the level of service might change within one year due to the normal growth of automobile traffic, and therefore change the number of trucks required to change the level of service one additional level of service.

The number of trucks required to change levels of service varies from as little as 10 to as much as 180, depending on the particular set of circumstances. These numbers should be viewed as approximations and not as some precise and absolute value. They indicate an approximate value at which traffic operations are likely to change from one level of service characterization to another.

RECOMMENDATIONS

The analyses and findings presented herein have led to the conclusion that no changes at the three intersections and along the five highway segments considered in this study are necessary. Furthermore, the driveway entrances at the Lewiston-Porter School Complex have sight distances exceeding that required for vehicles operating at 55 mph, the current speed limit posted.

The historical accident occurrence pattern during the past three years does not indicate a cause of accidents that is not similar to the pattern of traffic volumes or what might be expected based on the seasons of the year, days of the week and hours of the day. No improvements to the traffic control or geometrics at the three intersections and five highway segments analyzed are warranted.

Acceptable level of service traffic operations prevail for both the intersections and highway segments. Additional trucks required to change the level of service one level for highway segments analyzed, still, does not create levels of service that are typically considered for remediation.

APPENDIX A

EXISTING LEVEL OF SERVICE

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	37	405	384	> 384	> 347	> B
				> 583	> 460	>A
RIGHT	86	750	750	> 750	> 663	> A
MAJOR STREET						
SB LEFT	80	905	905	905	825	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	30	0	35
THRU	--	0	107	145
RIGHT	--	44	21	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	30	0	35
THRU	--	0	107	145
RIGHT	--	44	21	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	3	0	0
NORTHBOUND	4	15	0
SOUTHBOUND	4	13	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	34	491	477	> 477	> 444	> A
				> 635	> 552	>A
RIGHT	50	819	819	> 819	> 770	> A
MAJOR STREET						
SB LEFT	45	959	959	959	915	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... PM PEAK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	27	0	45
THRU	--	0	134	161
RIGHT	--	72	27	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	3	0	0
NORTHBOUND	4	1	0
SOUTHBOUND	4	3	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	30	444	429	> 429	> 399	> B
				> 641	> 529	>A
RIGHT	91	786	786	> 786	> 705	> A
MAJOR STREET						
SB LEFT	53	927	927	927	875	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

1985 HCM: UNSIGNALIZED INTERSECTIONS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	71	0	8
THRU	--	0	45	198
RIGHT	--	9	52	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	11	9	0
NORTHBOUND	12	24	0
SOUTHBOUND	15	2	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	90	508	505	> 505 > 530	> 415 > 428	A >A
RIGHT	11	872	872	> 872	> 860	A
MAJOR STREET						
SB LEFT	10	989	989	989	980	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MID-DAY PK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	50	0	12
THRU	--	0	101	85
RIGHT	--	13	36	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	4	29	0
NORTHBOUND	4	7	0
SOUTHBOUND	4	14	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MID-DAY PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	73	562	557	> 557	> 484	> A
				> 596	> 504	>A
RIGHT	19	818	818	> 818	> 799	> A
MAJOR STREET						
SB LEFT	15	951	951	951	935	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MID-DAY PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

1985 HCM: UNSIGNALIZED INTERSECTIONS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/YY)..... 02/23/93

TIME PERIOD ANALYZED..... PM PK HR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	57	0	10
THRU	--	0	178	99
RIGHT	--	14	57	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	4	18	0
NORTHBOUND	3	2	0
SOUTHBOUND	4	3	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PK HR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c (pcph) p	ACTUAL MOVEMENT CAPACITY c (pcph) M	SHARED CAPACITY c (pcph) SH	RESERVE CAPACITY c = c - v R SH	LOS
MINOR STREET						
WB LEFT	76	476	472	> 472 > 507	> 396 > 412	B >A
RIGHT	19	725	725	> 725	> 706	A
MAJOR STREET						
SB LEFT	12	849	849	849	837	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PK HR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	26	16	--
THRU	21	35	43	--
RIGHT	62	9	6	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	44	0
WESTBOUND	4	10	0
NORTHBOUND	5	40	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	27	610	597	597	570	A
RIGHT	10	902	902	902	892	A
MAJOR STREET						
WB LEFT	34	917	917	917	883	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

1985 HCM: UNSIGNALIZED INTERSECTIONS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	13	38	--
THRU	18	20	43	--
RIGHT	23	9	9	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	35	0
WESTBOUND	10	20	0
NORTHBOUND	10	55	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	72	663	655	655	584	A
RIGHT	17	927	927	927	910	A
MAJOR STREET						
WB LEFT	19	959	959	959	940	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

1985 HCM: UNSIGNALIZED INTERSECTIONS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... PM PEAK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	2	29	--
THRU	29	35	43	--
RIGHT	10	9	27	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	9	0
WESTBOUND	5	0	0
NORTHBOUND	3	10	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	38	654	653	653	615	A
RIGHT	35	929	929	929	893	A
MAJOR STREET						
WB LEFT	2	961	961	961	959	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	8
PERCENTAGE OF BUSES	7
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.8
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	1	.88
B	2.2	2	2.5	1	1	.86
C	2.2	2	2.5	1	1	.86
D	2	1.6	1.6	1	1	.89
E	2	1.6	1.6	1	1	.89

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 379
ACTUAL FLOW RATE: 474

LOS	SERVICE FLOW RATE	V/C
A	370	.15
B	648	.27
C	1033	.43
D	1597	.64
E	2496	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... MID-DAY PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	10
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.83
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	1	.9
B	2.2	2	2.5	1	1	.88
C	2.2	2	2.5	1	1	.88
D	2	1.6	1.6	1	1	.9
E	2	1.6	1.6	1	1	.9

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 341
ACTUAL FLOW RATE: 411

LOS	SERVICE FLOW RATE	V/C
A	379	.15
B	669	.27
C	1065	.43
D	1620	.64
E	2532	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	2
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.88
DIRECTIONAL DISTRIBUTION (UP/DOWN)	59 / 41
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	1	.97
B	2.2	2	2.5	1	1	.97
C	2.2	2	2.5	1	1	.97
D	2	1.6	1.6	1	1	.97
E	2	1.6	1.6	1	1	.97

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 402
ACTUAL FLOW RATE: 457

LOS	SERVICE FLOW RATE	V/C
A	409	.15
B	731	.27
C	1164	.43
D	1747	.64
E	2729	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	26
PERCENTAGE OF BUSES	5
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.68
DIRECTIONAL DISTRIBUTION (UP/DOWN)	66 / 34
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.91	.77
B	2.2	2	2.5	1	.91	.73
C	2.2	2	2.5	1	.91	.73
D	2	1.6	1.6	1	.91	.78
E	2	1.6	1.6	1	.91	.78

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 217
ACTUAL FLOW RATE: 319

LOS	SERVICE FLOW RATE	V/C
A	294	.15
B	505	.27
C	804	.43
D	1264	.64
E	1975	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	31
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.71
DIRECTIONAL DISTRIBUTION (UP/DOWN)	51 / 49
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.99	.76
B	2.2	2	2.5	1	.99	.73
C	2.2	2	2.5	1	.99	.73
D	2	1.6	1.6	1	.99	.76
E	2	1.6	1.6	1	.99	.76

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 197
ACTUAL FLOW RATE: 277

LOS	SERVICE FLOW RATE	V/C
A	319	.15
B	548	.27
C	872	.43
D	1360	.64
E	2125	1

LOS FOR GIVEN CONDITIONS: A

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	14
PERCENTAGE OF BUSES	2
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.8
DIRECTIONAL DISTRIBUTION (UP/DOWN)	62 / 38
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.99	.87
B	2.2	2	2.5	1	.99	.84
C	2.2	2	2.5	1	.99	.84
D	2	1.6	1.6	1	.99	.87
E	2	1.6	1.6	1	.99	.87

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 168
ACTUAL FLOW RATE: 210

LOS	SERVICE FLOW RATE	V/C
A	360	.15
B	630	.27
C	1003	.43
D	1540	.64
E	2406	1

LOS FOR GIVEN CONDITIONS: A

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	6
PERCENTAGE OF BUSES	4
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.91
DIRECTIONAL DISTRIBUTION (UP/DOWN)	57 / 43
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.92
B	2.2	2	2.5	1	.96	.9
C	2.2	2	2.5	1	.96	.9
D	2	1.6	1.6	1	.96	.92
E	2	1.6	1.6	1	.96	.92

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 542
ACTUAL FLOW RATE: 596

LOS	SERVICE FLOW RATE	V/C
A	368	.15
B	651	.27
C	1037	.43
D	1584	.64
E	2475	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... MID-DAY
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	14
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.89
DIRECTIONAL DISTRIBUTION (UP/DOWN)	56 / 44
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.88
B	2.2	2	2.5	1	.96	.86
C	2.2	2	2.5	1	.96	.86
D	2	1.6	1.6	1	.96	.88
E	2	1.6	1.6	1	.96	.88

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 384
ACTUAL FLOW RATE: 431

LOS	SERVICE FLOW RATE	V/C
A	355	.15
B	624	.27
C	994	.43
D	1515	.64
E	2368	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	2
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN)	57 / 43
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.98
B	2.2	2	2.5	1	.96	.98
C	2.2	2	2.5	1	.96	.98
D	2	1.6	1.6	1	.96	.98
E	2	1.6	1.6	1	.96	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 526
ACTUAL FLOW RATE: 584

LOS	SERVICE FLOW RATE	V/C
A	394	.15
B	707	.27
C	1126	.43
D	1683	.64
E	2630	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	2
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	57 / 43
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	8
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.98
B	2.2	2	2.5	1	.96	.98
C	2.2	2	2.5	1	.96	.98
D	2	1.6	1.6	1	.96	.98
E	2	1.6	1.6	1	.96	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 526
ACTUAL FLOW RATE: 584

LOS	SERVICE FLOW RATE	V/C
A	394	.15
B	707	.27
C	1126	.43
D	1683	.64
E	2630	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	8
PERCENTAGE OF BUSES	2
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.82
DIRECTIONAL DISTRIBUTION (UP/DOWN)	58 / 42
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.95	.91
B	2.2	2	2.5	1	.95	.9
C	2.2	2	2.5	1	.95	.9
D	2	1.6	1.6	1	.95	.92
E	2	1.6	1.6	1	.95	.92

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 581
ACTUAL FLOW RATE: 709

LOS	SERVICE FLOW RATE	V/C
A	365	.15
B	645	.27
C	1027	.43
D	1562	.64
E	2441	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	16
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.86
DIRECTIONAL DISTRIBUTION (UP/DOWN)	56 / 44
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.86
B	2.2	2	2.5	1	.96	.84
C	2.2	2	2.5	1	.96	.84
D	2	1.6	1.6	1	.96	.86
E	2	1.6	1.6	1	.96	.86

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 435
ACTUAL FLOW RATE: 506

LOS	SERVICE FLOW RATE	V/C
A	349	.15
B	611	.27
C	974	.43
D	1489	.64
E	2327	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.....	4
PERCENTAGE OF BUSES.....	0
PERCENTAGE OF RECREATIONAL VEHICLES.....	0
DESIGN SPEED (MPH).....	60
PEAK HOUR FACTOR.....	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN).....	64 / 36
LANE WIDTH (FT).....	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)...	6
PERCENT NO PASSING ZONES.....	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.92	.96
B	2.2	2	2.5	1	.92	.95
C	2.2	2	2.5	1	.92	.95
D	2	1.6	1.6	1	.92	.96
E	2	1.6	1.6	1	.92	.96

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 552
ACTUAL FLOW RATE: 613

LOS	SERVICE FLOW RATE	V/C
A	372	.15
B	664	.27
C	1057	.43
D	1585	.64
E	2477	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... 1993 TRAFFIC NB - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	3	(HEAVY - 300 #/HP)
PERCENTAGE OF BUSES	1	
PERCENTAGE OF RECREATIONAL VEHICLES	0	
DESIGN SPEED (MPH)	60	
PEAK HOUR FACTOR	.85	
DRIVER POPULATION FACTOR	1	(WEEKDAY/COMMUTER)
LANE WIDTH (FT)	12	
OBSTRUCTIONS	ONE SIDE	
DISTANCE (FT) FROM ROADWAY EDGE	2	
TYPE OF MULTILANE HIGHWAY	SUBURBAN, UNDIVIDED	

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.93	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES	2
INPUT VOLUME	525
V/C RATIO	.22
LEVEL OF SERVICE	A
MAX. SERVICE FLOW RATE (pcphpl)	439
SPEED (mph)	52
DENSITY (pcpmpl)	9

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... 1993 TRAFFIC SB - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 3 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 1
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .85
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.93	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 1427
V/C RATIO..... .6
LEVEL OF SERVICE.....C
MAX. SERVICE FLOW RATE (pcphpl).. 1193
SPEED (mph)..... 45
DENSITY (pcpmpl)..... 26

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... 1993 TRAFFIC NB - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 5 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .91
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.91	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 799
V/C RATIO..... .32
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 635
SPEED (mph)..... 50
DENSITY (pcpmpl)..... 12

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	31	0	63
THRU	--	0	170	157
RIGHT	--	74	7	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	5	1	0
NORTHBOUND	2	16	0
SOUTHBOUND	4	7	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; AM PK HOUR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c (pcph) p	ACTUAL MOVEMENT CAPACITY c (pcph) M	SHARED CAPACITY c (pcph) SH	RESERVE CAPACITY c = c - v R SH	LOS
MINOR STREET						
WB LEFT	36	416	395	> 395	> 360	B
				> 596	> 475	>A
RIGHT	85	757	757	> 757	> 672	A
MAJOR STREET						
SB LEFT	76	912	912	912	836	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; AM PK HOUR
OTHER INFORMATION.... EXISTING TURNS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	29	0	34
THRU	--	0	103	139
RIGHT	--	43	20	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	3	0	0
NORTHBOUND	4	15	0
SOUTHBOUND	4	13	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS					
	SB	5.40	5.40	0.00	5.40
MINOR LEFTS					
	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; MD PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c = c_R - v_{SH}$	LOS
MINOR STREET						
WB LEFT	33	501	487	> 487 > 645	> 454 > 563	A >A
RIGHT	48	824	824	> 824	> 776	A
MAJOR STREET						
SB LEFT	43	964	964	964	921	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; MD PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... PM PEAK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	26	0	43
THRU	--	0	129	155
RIGHT	--	71	26	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	3	0	0
NORTHBOUND	4	1	0
SOUTHBOUND	4	3	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; PM PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c = c - v$ c_R c_{SH}	LOS
MINOR STREET						
WB LEFT	29	456	441	> 441	> 412	> A
				> 653	> 543	>A
RIGHT	80	792	792	> 792	> 712	> A
MAJOR STREET						
SB LEFT	50	933	933	933	883	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; PM PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

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IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	70	0	8
THRU	--	0	43	190
RIGHT	--	9	50	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	11	9	0
NORTHBOUND	12	24	0
SOUTHBOUND	15	2	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; AM PK HOUR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c = c - v$ c_R	c_{SH}	LOS
MINOR STREET							
WB LEFT	89	518	515	> 515	> 425		> A
				> 540	> 439		>A
RIGHT	11	875	875	> 875	> 863		> A
MAJOR STREET							
SB LEFT	10	993	993	993	983		A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; AM PK HOUR
OTHER INFORMATION.... EXISTING TURNS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... MID-DAY PK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	49	0	11
THRU	--	0	97	82
RIGHT	--	13	35	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	4	29	0
NORTHBOUND	4	7	0
SOUTHBOUND	4	14	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; MID-DAY PK HOUR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_m	SHARED CAPACITY c (pcph) c_sh	RESERVE CAPACITY c = c_r - v c_sh	LOS
MINOR STREET						
WB LEFT	71	570	564	564 / 604	493 / 514	A / A
RIGHT	19	823	823	823	804	A
MAJOR STREET						
SB LEFT	14	955	955	955	941	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; MID-DAY PK HOUR
OTHER INFORMATION.... EXISTING TURNS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... PM PK HR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	56	0	10
THRU	--	0	171	95
RIGHT	--	14	55	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	4	18	0
NORTHBOUND	3	2	0
SOUTHBOUND	4	3	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; PM PK HR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c = c_R - v_{SH}$	LOS
MINOR STREET						
WB LEFT	75	486	482	> 482	> 407	A
				> 518	> 424	>A
RIGHT	19	733	733	> 733	> 714	A
MAJOR STREET						
SB LEFT	12	858	858	858	847	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; PM PK HR
OTHER INFORMATION.... EXISTING TURNS

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CUM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	25	16	--
THRU	21	34	43	--
RIGHT	61	9	6	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	44	0
WESTBOUND	4	40	0
NORTHBOUND	5	40	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; AM PK HOUR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) p	ACTUAL MOVEMENT CAPACITY c (pcph) M	SHARED CAPACITY c (pcph) SH	RESERVE CAPACITY c = c - v R SH	LOS
MINOR STREET						
NB LEFT	27	613	600	600	573	A
RIGHT	10	903	903	903	893	A
MAJOR STREET						
WB LEFT	33	918	918	918	885	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; AM PK HOUR
OTHER INFORMATION.... EXISTING TURNS

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IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	13	37	--
THRU	18	20	43	--
RIGHT	23	9	9	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

JUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	35	0
WESTBOUND	10	20	0
NORTHBOUND	10	55	0
SOUTHBOUND	---	---	---

RITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; MD PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c = c - v$ c_R c_{SH}	LOS
MINOR STREET						
NB LEFT	70	663	655	655	586	A
RIGHT	17	927	927	927	910	A
MAJOR STREET						
WB LEFT	19	959	959	959	940	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; MD PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

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****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 05/12/92

TIME PERIOD ANALYZED..... PM PEAK HOUR

OTHER INFORMATION.... EXISTING TURNS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	2	28	--
THRU	28	34	43	--
RIGHT	10	9	26	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	9	0
WESTBOUND	5	0	0
NORTHBOUND	3	10	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 05/12/92 ; PM PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	37	656	655	655	618	A
RIGHT	34	929	929	929	895	A
MAJOR STREET						
WB LEFT	2	962	962	962	960	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
ATE AND TIME OF THE ANALYSIS..... 05/12/92 ; PM PEAK HOUR
OTHER INFORMATION.... EXISTING TURNS

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	26
PERCENTAGE OF BUSES	5
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.68
DIRECTIONAL DISTRIBUTION (UP/DOWN)	66 / 34
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.91	.77
B	2.2	2	2.5	1	.91	.73
C	2.2	2	2.5	1	.91	.73
D	2	1.6	1.6	1	.91	.78
E	2	1.6	1.6	1	.91	.78

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 213
ACTUAL FLOW RATE: 313

LOS	SERVICE FLOW RATE	V/C
A	294	.15
B	505	.27
C	804	.43
D	1264	.64
E	1975	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	31
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.71
DIRECTIONAL DISTRIBUTION (UP/DOWN)	51 / 49
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.99	.76
B	2.2	2	2.5	1	.99	.73
C	2.2	2	2.5	1	.99	.73
D	2	1.6	1.6	1	.99	.76
E	2	1.6	1.6	1	.99	.76

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 193
ACTUAL FLOW RATE: 272

LOS	SERVICE FLOW RATE	V/C
A	319	.15
B	548	.27
C	872	.43
D	1360	.64
E	2125	1

LOS FOR GIVEN CONDITIONS: A

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 14
PERCENTAGE OF BUSES..... 2
PERCENTAGE OF RECREATIONAL VEHICLES..... 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .8
DIRECTIONAL DISTRIBUTION (UP/DOWN)..... 62 / 38
LANE WIDTH (FT)..... 12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)... 8
PERCENT NO PASSING ZONES..... 0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.93	.87
B	2.2	2	2.5	1	.93	.84
C	2.2	2	2.5	1	.93	.84
D	2	1.6	1.6	1	.93	.87
E	2	1.6	1.6	1	.93	.87

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 165
ACTUAL FLOW RATE: 206

LOS	SERVICE FLOW RATE	V/C
A	338	.15
B	592	.27
C	943	.43
D	1447	.64
E	2260	1

LOS FOR GIVEN CONDITIONS: A

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF SALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	8
PERCENTAGE OF BUSES	7
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	50
PEAK HOUR FACTOR	.8
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.97	.88
B	2.2	2	2.5	1	.97	.86
C	2.2	2	2.5	1	.97	.86
D	2	1.6	1.6	1	.97	.89
E	2	1.6	1.6	1	.97	.89

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 364
ACTUAL FLOW RATE: 455

LOS	SERVICE FLOW RATE	V/C
A	359	.15
B	629	.27
C	1002	.43
D	1549	.64
E	2421	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... MID-DAY PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	10
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.83
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.97	.9
B	2.2	2	2.5	1	.97	.88
C	2.2	2	2.5	1	.97	.88
D	2	1.6	1.6	1	.97	.9
E	2	1.6	1.6	1	.97	.9

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 328
ACTUAL FLOW RATE: 395

LOS	SERVICE FLOW RATE	V/C
A	368	.15
B	649	.27
C	1034	.43
D	1572	.64
E	2456	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	2
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.88
DIRECTIONAL DISTRIBUTION (UP/DOWN)	59 / 41
LANE WIDTH (FT)	12
USABLE SHOULDER WIOTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.95	.97
B	2.2	2	2.5	1	.95	.97
C	2.2	2	2.5	1	.95	.97
D	2	1.6	1.6	1	.95	.97
E	2	1.6	1.6	1	.95	.97

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 387
ACTUAL FLOW RATE: 440

LOS	SERVICE FLOW RATE	V/C
A	386	.15
B	692	.27
C	1102	.43
D	1652	.64
E	2582	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	6
PERCENTAGE OF BUSES	4
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.91
DIRECTIONAL DISTRIBUTION (UP/DOWN)	57 / 43
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.96	.92
B	2.2	2	2.5	1	.96	.9
C	2.2	2	2.5	1	.96	.9
D	2	1.6	1.6	1	.96	.92
E	2	1.6	1.6	1	.96	.92

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 521
ACTUAL FLOW RATE: 573

LOS	SERVICE FLOW RATE	V/C
A	368	.15
B	651	.27
C	1037	.43
D	1584	.64
E	2475	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... MID-DAY
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	14
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.89
DIRECTIONAL DISTRIBUTION (UP/DOWN)	56 / 44
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.88
B	2.2	2	2.5	1	.96	.86
C	2.2	2	2.5	1	.96	.86
D	2	1.6	1.6	1	.96	.88
E	2	1.6	1.6	1	.96	.88

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 369
ACTUAL FLOW RATE: 415

LOS	SERVICE FLOW RATE	V/C
A	355	.15
B	624	.27
C	994	.43
D	1515	.64
E	2368	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM
DATE OF ANALYSIS..... 05/12/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	2
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN)	57 / 43
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.96	.98
B	2.2	2	2.5	1	.96	.98
C	2.2	2	2.5	1	.96	.98
D	2	1.6	1.6	1	.96	.98
E	2	1.6	1.6	1	.96	.98

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 506
ACTUAL FLOW RATE: 562

LOS	SERVICE FLOW RATE	V/C
A	394	.15
B	707	.27
C	1126	.43
D	1683	.64
E	2630	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 05/14/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	8
PERCENTAGE OF BUSES	2
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.82
DIRECTIONAL DISTRIBUTION (UP/DOWN)	58 / 42
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.95	.91
B	2.2	2	2.5	1	.95	.9
C	2.2	2	2.5	1	.95	.9
D	2	1.6	1.6	1	.95	.92
E	2	1.6	1.6	1	.95	.92

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 559
ACTUAL FLOW RATE: 682

LOS	SERVICE FLOW RATE	V/C
A	365	.15
B	645	.27
C	1027	.43
D	1562	.64
E	2441	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 05/14/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	16
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	50
PEAK HOUR FACTOR	.86
DIRECTIONAL DISTRIBUTION (UP/DOWN)	56 / 44
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.86
B	2.2	2	2.5	1	.96	.84
C	2.2	2	2.5	1	.96	.84
D	2	1.6	1.6	1	.96	.86
E	2	1.6	1.6	1	.96	.86

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 418
ACTUAL FLOW RATE: 486

LOS	SERVICE FLOW RATE	V/C
A	349	.15
B	611	.27
C	974	.43
D	1489	.64
E	2327	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 05/14/92
OTHER INFORMATION.... EXISTING TRAFFIC

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	4
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN)	64 / 36
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f W	f d	f HV
A	2	1.8	2.2	1	.92	.96
B	2.2	2	2.5	1	.92	.95
C	2.2	2	2.5	1	.92	.95
D	2	1.6	1.6	1	.92	.96
E	2	1.6	1.6	1	.92	.96

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 531
ACTUAL FLOW RATE: 590

LOS	SERVICE FLOW RATE	V/C
A	372	.15
B	664	.27
C	1057	.43
D	1585	.64
E	2477	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... EXISTING TRAFFIC - NB

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	3 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.85
DRIVER POPULATION FACTOR	1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)	12
OBSTRUCTIONS	ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE	2
TYPE OF MULTILANE HIGHWAY	SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.93	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES	2
INPUT VOLUME	510
V/C RATIO	.21
LEVEL OF SERVICE	A
MAX. SERVICE FLOW RATE (pcphpl)	426
SPEED (mph)	52
DENSITY (pcpmpl)	8

1985 HCM:MULTILANE HIGHWAYS

****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... EXISTING TRAFFIC - SB

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 3 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 1
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .85
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.93	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS

****

NO. OF LANES..... 2
INPUT VOLUME..... 1385
V/C RATIO..... .58
LEVEL OF SERVICE.....C
MAX. SERVICE FLOW RATE (pcphpl).. 1158
SPEED (mph)..... 45
DENSITY (pcpmpl)..... 25

1985 HCM:MULTILANE HIGHWAYS

****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... EXISTING TRAFFIC - NB

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 5 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .91
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.91	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS

****

NO. OF LANES..... 2
INPUT VOLUME..... 776
V/C RATIO..... .31
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 617
SPEED (mph)..... 50
DENSITY (pcpmpl)..... 12

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... EXISTING TRAFFIC - SB

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	5 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.91
DRIVER POPULATION FACTOR	1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)	12
OBSTRUCTIONS	ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE	2
TYPE OF MULTILANE HIGHWAY	SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.91	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES	2
INPUT VOLUME	766
V/C RATIO	.3
LEVEL OF SERVICE	A
MAX. SERVICE FLOW RATE (pcphpl)	609
SPEED (mph)	51
DENSITY (pcpmpl)	12

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... EXISTING TRAFFIC - NB

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	1	(HEAVY - 300 #/HP)
PERCENTAGE OF BUSES	0	
PERCENTAGE OF RECREATIONAL VEHICLES	0	
DESIGN SPEED (MPH)	60	
PEAK HOUR FACTOR	.9	
DRIVER POPULATION FACTOR	1	(WEEKDAY/COMMUTER)
LANE WIDTH (FT)	12	
OBSTRUCTIONS	ONE SIDE	
DISTANCE (FT) FROM ROADWAY EDGE	2	
TYPE OF MULTILANE HIGHWAY	SUBURBAN, UNDIVIDED	

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.98	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES	2
INPUT VOLUME	1324
V/C RATIO	.49
LEVEL OF SERVICE	B
MAX. SERVICE FLOW RATE (pcphpl)	987
SPEED (mph)	47
DENSITY (pcpmpl)	20

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... EXISTING TRAFFIC - SB

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 1 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .93
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.98	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 752
V/C RATIO..... .27
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 543
SPEED (mph)..... 51
DENSITY (pcpmpl)..... 10

APPENDIX B

TARGET YEAR 1993 TRAFFIC
WITHOUT CONSTRUCTION TRUCKS
LEVEL OF SERVICE

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	32	0	66
THRU	--	0	177	163
RIGHT	--	75	7	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	5	1	0
NORTHBOUND	2	16	0
SOUTHBOUND	4	7	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS - BACKGROUND

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	32	0	66
THRU	--	0	177	163
RIGHT	--	75	7	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	5	1	0
NORTHBOUND	2	16	0
SOUTHBOUND	4	7	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS - BACKGROUND

1985 HCM:MULTILANE HIGHWAYS

****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... 1993 TRAFFIC SB - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 5 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .91
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.91	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS

****

NO. OF LANES..... 2
INPUT VOLUME..... 789
V/C RATIO..... .31
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 627
SPEED (mph)..... 50
DENSITY (pcpmpl)..... 12

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02-24-93
OTHER INFORMATION.... 1993 TRAFFIC NB - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 1 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .9
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.98	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 1364
V/C RATIO..... .51
LEVEL OF SERVICE.....C
MAX. SERVICE FLOW RATE (pcphpl).. 1017
SPEED (mph)..... 47
DENSITY (pcpmpl)..... 21

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02-25-93
OTHER INFORMATION.... 1993 TRAFFIC SB - BACKGROUND

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 1 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .93
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.98	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 775
V/C RATIO..... .28
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 559
SPEED (mph)..... 51
DENSITY (pcpmpl)..... 11

APPENDIX C

TARGET YEAR 1993 TRAFFIC WITH CONSTRUCTION TRUCKS LEVEL OF SERVICE

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	32	0	66
THRU	--	0	210	196
RIGHT	--	75	7	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	5	1	0
NORTHBOUND	2	28	0
SOUTHBOUND	4	18	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v (pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)		SHARED CAPACITY c_{SH} (pcph)		RESERVE CAPACITY $c_R = c_{SH} - v$		LOS
MINOR STREET									
WB LEFT	37	360	338	>	338	>	301	>	B
				> 538		> 414		>A	
RIGHT	86	718	718	>	718	>	632	>	A
MAJOR STREET									
SB LEFT	88	868	868		868		780		A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	30	0	35
THRU	--	0	140	178
RIGHT	--	44	21	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	3	0	0
NORTHBOUND	4	32	0
SOUTHBOUND	4	26	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	34	437	423	> 423	> 389	> B
				> 582	> 498	>A
RIGHT	50	783	783	> 783	> 733	> A
MAJOR STREET						
SB LEFT	50	927	927	927	878	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... SWANN

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... PM PEAK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	27	0	45
THRU	--	0	167	194
RIGHT	--	72	27	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	3	0	0
NORTHBOUND	4	18	0
SOUTHBOUND	4	16	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c (pcph) c_p	ACTUAL MOVEMENT CAPACITY c (pcph) c_M	SHARED CAPACITY c (pcph) c_{SH}	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	30	398	383	> 383 > 352		> B
				> 594 > 482		>A
RIGHT	81	750	750	> 750 > 668		> A
MAJOR STREET						
SB LEFT	59	894	894	894	835	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... SWANN
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	104	0	8
THRU	--	0	45	198
RIGHT	--	9	85	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	11	35	0
NORTHBOUND	12	43	0
SOUTHBOUND	15	2	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)		SHARED CAPACITY c_{SH} (pcph)		RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET								
WB LEFT	162	494	491	>	491	>	329	> B
				> 509		> 332		>B
RIGHT	14	853	853	>	853	>	839	> A
MAJOR STREET								
SB LEFT	10	957	957		957		948	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MID-DAY PK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	83	0	12
THRU	--	0	101	85
RIGHT	--	13	69	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	-----	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	4	53	0
NORTHBOUND	4	25	0
SOUTHBOUND	4	14	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MID-DAY PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	143	547	542	> 542	> 399	> B
				> 567	> 401	>A
RIGHT	22	799	799	> 799	> 777	> A
MAJOR STREET						
SB LEFT	15	919	919	919	903	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MID-DAY PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .9

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... NY 18

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... PM PK HR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE WESTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	--	90	0	10
THRU	--	0	178	99
RIGHT	--	14	90	0

NUMBER OF LANES

	EB	WB	NB	SB
LANES	--	1	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	------	---	---	-
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	---	---	---
WESTBOUND	4	44	0
NORTHBOUND	3	14	0
SOUTHBOUND	4	3	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	WB	6.30	6.30	0.00	6.30
MAJOR LEFTS	SB	5.40	5.40	0.00	5.40
MINOR LEFTS	WB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PK HR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
WB LEFT	146	462	458	> 458 > 481	> 312 > 313	B >B
RIGHT	23	709	709	> 709	> 687	A
MAJOR STREET						
SB LEFT	12	812	812	812	801	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... NY 18
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PK HR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... AM PK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	26	49	--
THRU	21	35	43	--
RIGHT	95	9	6	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	53	0
WESTBOUND	4	10	0
NORTHBOUND	5	76	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	103	593	580	580	477	A
RIGHT	13	882	882	882	870	A
MAJOR STREET						
WB LEFT	34	878	878	878	844	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; AM PK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... MD PEAK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	13	71	--
THRU	18	20	43	--
RIGHT	56	9	9	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	64	0
WESTBOUND	10	20	0
NORTHBOUND	10	73	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	149	645	637	637	489	A
RIGHT	19	908	908	908	889	A
MAJOR STREET						
WB LEFT	19	926	926	926	907	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; MD PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..... .85

AREA POPULATION..... 150000

NAME OF THE EAST/WEST STREET..... BALMER

NAME OF THE NORTH/SOUTH STREET..... CWM DRIVE

NAME OF THE ANALYST..... A & C

DATE OF THE ANALYSIS (mm/dd/yy)..... 02/23/93

TIME PERIOD ANALYZED..... PM PEAK HOUR

OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	2	62	--
THRU	29	35	43	--
RIGHT	43	9	27	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	1	2	--

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	4	50	0
WESTBOUND	5	0	0
NORTHBOUND	3	43	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	NB	6.30	6.30	0.00	6.30
MAJOR LEFTS	WB	5.90	5.90	0.00	5.90
MINOR LEFTS	NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

MOVEMENT	FLOW-RATE v(pcph)	POTENTIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	105	636	635	635	530	A
RIGHT	46	909	909	909	863	A
MAJOR STREET						
WB LEFT	2	928	928	928	926	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET..... BALMER
NAME OF THE NORTH/SOUTH STREET.... CWM DRIVE
DATE AND TIME OF THE ANALYSIS..... 02/23/93 ; PM PEAK HOUR
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	21
PERCENTAGE OF BUSES	7
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.8
DIRECTIONAL DISTRIBUTION (UP/DOWN)	53 / 47
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.98	.79
B	2.2	2	2.5	1	.98	.76
C	2.2	2	2.5	1	.98	.76
D	2	1.6	1.6	1	.98	.8
E	2	1.6	1.6	1	.98	.8

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 445
ACTUAL FLOW RATE: 556

LOS	SERVICE FLOW RATE	V/C
A	326	.15
B	562	.27
C	894	.43
D	1406	.64
E	2196	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... MID-DAY PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	24
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.83
DIRECTIONAL DISTRIBUTION (UP/DOWN)	53 / 47
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.98	.8
B	2.2	2	2.5	1	.98	.77
C	2.2	2	2.5	1	.98	.77
D	2	1.6	1.6	1	.98	.8
E	2	1.6	1.6	1	.98	.8

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 407
ACTUAL FLOW RATE: 490

LOS	SERVICE FLOW RATE	V/C
A	330	.15
B	572	.27
C	911	.43
D	1412	.64
E	2207	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY 18 - SOUTH OF BALMER ROAD
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TURNS W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	16
PERCENTAGE OF BUSES	1
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.88
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.97	.86
B	2.2	2	2.5	1	.97	.83
C	2.2	2	2.5	1	.97	.83
D	2	1.6	1.6	1	.97	.86
E	2	1.6	1.6	1	.97	.86

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 468
ACTUAL FLOW RATE: 532

LOS	SERVICE FLOW RATE	V/C
A	349	.15
B	610	.27
C	972	.43
D	1491	.64
E	2329	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	43
PERCENTAGE OF BUSES	5
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.68
DIRECTIONAL DISTRIBUTION (UP/DOWN)	60 / 40
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.94	.68
B	2.2	2	2,5	1	.94	.64
C	2.2	2	2.5	1	.94	.64
D	2	1.6	1.6	1	.94	.68
E	2	1.6	1.6	1	.94	.68

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 283
ACTUAL FLOW RATE: 416

LOS	SERVICE FLOW RATE	V/C
A	269	.15
B	454	.27
C	723	.43
D	1154	.64
E	1803	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	48
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.71
DIRECTIONAL DISTRIBUTION (UP/DOWN)	51 / 49
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.99	.68
B	2.2	2	2.5	1	.99	.63
C	2.2	2	2.5	1	.99	.63
D	2	1.6	1.6	1	.99	.68
E	2	1.6	1.6	1	.99	.68

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 263
ACTUAL FLOW RATE: 370

LOS	SERVICE FLOW RATE	V/C
A	282	.15
B	477	.27
C	759	.43
D	1204	.64
E	1881	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... BALMER ROAD - EAST OF NY 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/23/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	38
PERCENTAGE OF BUSES	2
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.8
DIRECTIONAL DISTRIBUTION (UP/DOWN)	58 / 42
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.95	.72
B	2.2	2	2.5	1	.95	.68
C	2.2	2	2.5	1	.95	.68
D	2	1.6	1.6	1	.95	.72
E	2	1.6	1.6	1	.95	.72

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 234
ACTUAL FLOW RATE: 293

LOS	SERVICE FLOW RATE	V/C
A	286	.15
B	488	.27
C	777	.43
D	1226	.64
E	1915	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	16
PERCENTAGE OF BUSES	4
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.91
DIRECTIONAL DISTRIBUTION (UP/DOWN)	56 / 44
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.84
B	2.2	2	2.5	1	.96	.81
C	2.2	2	2.5	1	.96	.81
D	2	1.6	1.6	1	.96	.84
E	2	1.6	1.6	1	.96	.84

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 608
ACTUAL FLOW RATE: 668

LOS	SERVICE FLOW RATE	V/C
A	340	.15
B	592	.27
C	942	.43
D	1459	.64
E	2280	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... MID-DAY
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	27
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.89
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.97	.79
B	2.2	2	2.5	1	.97	.76
C	2.2	2	2.5	1	.97	.76
D	2	1.6	1.6	1	.97	.79
E	2	1.6	1.6	1	.97	.79

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 450
ACTUAL FLOW RATE: 506

LOS	SERVICE FLOW RATE	V/C
A	321	.15
B	554	.27
C	882	.43
D	1369	.64
E	2139	1

LOS FOR GIVEN CONDITIONS: B

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY 18 - NORTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	13
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN)	56 / 44
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	8
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.88
B	2.2	2	2.5	1	.96	.87
C	2.2	2	2.5	1	.96	.87
D	2	1.6	1.6	1	.96	.88
E	2	1.6	1.6	1	.96	.88

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 592
ACTUAL FLOW RATE: 658

LOS	SERVICE FLOW RATE	V/C
A	358	.15
B	630	.27
C	1004	.43
D	1529	.64
E	2389	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	17
PERCENTAGE OF BUSES	2
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.82
DIRECTIONAL DISTRIBUTION (UP/DOWN)	57 / 43
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.96	.84
B	2.2	2	2.5	1	.96	.82
C	2.2	2	2.5	1	.96	.82
D	2	1.6	1.6	1	.96	.85
E	2	1.6	1.6	1	.96	.85

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 647
ACTUAL FLOW RATE: 789

LOS	SERVICE FLOW RATE	V/C
A	339	.15
B	592	.27
C	942	.43
D	1452	.64
E	2269	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:TWO-LANE HIGHWAYS
****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	27
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.86
DIRECTIONAL DISTRIBUTION (UP/DOWN)	55 / 45
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.97	.79
B	2.2	2	2.5	1	.97	.76
C	2.2	2	2.5	1	.97	.76
D	2	1.6	1.6	1	.97	.79
E	2	1.6	1.6	1	.97	.79

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 501
ACTUAL FLOW RATE: 583

LOS	SERVICE FLOW RATE	V/C
A	321	.15
B	554	.27
C	882	.43
D	1369	.64
E	2139	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:TWO-LANE HIGHWAYS

****

FACILITY LOCATION.... NY18 - SOUTH OF NY 104
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02/24/93
OTHER INFORMATION.... 1993 TRAFFIC W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS	14
PERCENTAGE OF BUSES	0
PERCENTAGE OF RECREATIONAL VEHICLES	0
DESIGN SPEED (MPH)	60
PEAK HOUR FACTOR	.9
DIRECTIONAL DISTRIBUTION (UP/DOWN)	63 / 37
LANE WIDTH (FT)	12
USABLE SHOULDER WIDTH (AVG. WIDTH IN FT.)	6
PERCENT NO PASSING ZONES	0

B) CORRECTION FACTORS

LEVEL TERRAIN

LOS	E T	E B	E R	f w	f d	f HV
A	2	1.8	2.2	1	.93	.88
B	2.2	2	2.5	1	.93	.86
C	2.2	2	2.5	1	.93	.86
D	2	1.6	1.6	1	.93	.88
E	2	1.6	1.6	1	.93	.88

C) LEVEL OF SERVICE RESULTS

INPUT VOLUME(vph): 618
ACTUAL FLOW RATE: 687

LOS	SERVICE FLOW RATE	V/C
A	341	.15
B	599	.27
C	954	.43
D	1454	.64
E	2272	1

LOS FOR GIVEN CONDITIONS: C

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... AM PK HR
DATE OF ANALYSIS..... 02-25-93
OTHER INFORMATION.... 1993 TRAFFIC NB W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 9 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 1
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .85
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.83	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 558
V/C RATIO..... .26
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 518
SPEED (mph)..... 51
DENSITY (pcpmpl)..... 10

1985 HCM:MULTILANE HIGHWAYS

****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... MD PK HR
DATE OF ANALYSIS..... 02-25-93
OTHER INFORMATION.... 1993 TRAFFIC SB W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 9 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .91
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.85	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS

****

NO. OF LANES..... 2
INPUT VOLUME..... 822
V/C RATIO..... .35
LEVEL OF SERVICE.....B
MAX. SERVICE FLOW RATE (pcphpl).. 701
SPEED (mph)..... 50
DENSITY (pcpmpl)..... 14

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02-25-93
OTHER INFORMATION.... 1993 TRAFFIC NB W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 3 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .9
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.94	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 1397
V/C RATIO..... .54
LEVEL OF SERVICE.....C
MAX. SERVICE FLOW RATE (pcphpl).. 1082
SPEED (mph)..... 46
DENSITY (pcpmpl)..... 23

1985 HCM:MULTILANE HIGHWAYS
****

FACILITY SECTION..... ROUTE 104 - SOUTH OF RTE 18
ANALYST..... A & C
TIME OF ANALYSIS..... PM PK HR
DATE OF ANALYSIS..... 02-25-93
OTHER INFORMATION.... 1993 TRAFFIC SB W/ CONSTRUCTION

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..... 5 (HEAVY - 300 #/HP)
PERCENTAGE OF BUSES..... 0
PERCENTAGE OF RECREATIONAL VEHICLES.. 0
DESIGN SPEED (MPH)..... 60
PEAK HOUR FACTOR..... .93
DRIVER POPULATION FACTOR..... 1 (WEEKDAY/COMMUTER)
LANE WIDTH (FT)..... 12
OBSTRUCTIONS..... ONE SIDE
DISTANCE (FT) FROM ROADWAY EDGE..... 2
TYPE OF MULTILANE HIGHWAY..... SUBURBAN, UNDIVIDED

B) CORRECTION FACTORS

TERRAIN TYPE	E T	E B	E R	f HV	f w	f p	f E
ROLLING	3.0	3.0	3.0	0.91	0.95	1.00	0.80

C) OPERATIONAL ANALYSIS RESULTS
****

NO. OF LANES..... 2
INPUT VOLUME..... 808
V/C RATIO..... .31
LEVEL OF SERVICE.....A
MAX. SERVICE FLOW RATE (pcphpl).. 629
SPEED (mph)..... 50
DENSITY (pcpmpl)..... 12

APPENDIX D

STATEMENT OF QUALIFICATION

Bettigole Andrews & Clark
Consulting Engineers

737 Main Street
Suite 1030
Buffalo, NY 14203
716-854-1181
Fax 716-854-1800

Offices:
New Jersey
New York
New Hampshire
Connecticut
Massachusetts
Pennsylvania
Florida

BETTIGOLE ANDREWS & CLARK, INC

STATEMENT OF QUALIFICATIONS

BETTIGOLE ANDREWS & CLARK, INC. is a 200 person professional services organization with offices in Buffalo, New York; New York, New York; Hackensack, New Jersey; Concord, New Hampshire; Boston, Massachusetts; Philadelphia, Pennsylvania and Coral Gables, Florida. We have been offering consulting services to both public and private agencies in the fields of transportation and the environment since 1938. We provide services that include feasibility studies, transportation planning, traffic engineering, bridge inspection, civil and structural design for highways and bridges, land surveying, railroad facility design, flood control and protection, environmental impact statements, land planning, site development, moveable bridge design, long span and complex bridge structure design and construction management and inspection.

BETTIGOLE ANDREWS & CLARK, INC. serves a variety of clients throughout the eastern United States. Our projects range in magnitude and complexity from a traffic impact study for a small development to a $160 million transportation planning and design project such as the Long Island Expressway in Long Island, New York. Other major projects we have designed are the modifications to the Tappen Zee Bridge which carries the New York State Thruway over the Hudson River north of New York City and the in-depth inspections and ratings of the Verrazano Narrows, Triborough, Whitestone and Throg's Neck bridges which are all major structures in the New York City area.

BETTIGOLE ANDREWS & CLARK, INC. also has extensive experience in implementing community interaction programs as part of major development projects. Our community liaison staff plays an important role in establishing credibility, cooperation and support for the projects in which we are involved. We have given hundreds of presentations to community groups, professional societies and government agencies. In each case, we made use of understandable language presentation graphics and project newsletters.

All of these have proven to be valuable tools in successfully promoting transportation and site development projects. These programs play an important role in expediting projects through environmental and design process by limiting potential opposition and making use of local input in the design. This effort gives the project a local identity and allows the time to tap the knowledge and experience of the project-affected local communities.

APPENDIX E

RESUMES

BETTIGOLE ANDREWS & CLARK, INC.

NAME: BRIAN A. MOORE, P.E.

TITLE: Traffic Engineer/Transportation Planner

EDUCATION: MSCE, Transportation Planning, University of Michigan, 1965
BSCE, Civil Engineering, University of Michigan, 1964
Training Workshops:
CEAL - CLM, 1993
Transportation Demand Management - ITE, 1993
Traffic Signal Workshop - Northwestern University, Traffic Institute, 1991
TMODEL 2, 1990
TRANSYT 7F, 1989

REGISTRATIONS: Professional Engineer in Ohio and Michigan; New York Pending

AFFILIATIONS: Institute of Transportation Engineers

EXPERIENCE:

Mr. Moore has 18 years of experience in the fields of transportation planning and traffic engineering. He has conducted numerous site development impact analyses; signal designs; intersection analyses; and traffic circulation, transportation planning, corridor feasibility, accident and parking studies. He also has developed traffic, social, economic, and financial resources forecasts. Mr. Moore has responsibility for project management, field inventory, quality control and accuracy checks analyses, report preparation and meeting presentations. A representative sample of projects accomplishment includes:

TRAFFIC/TRANSPORTATION PLANNING STUDIES

Southtowns Connector Feasibility Study

Assistant Project Director for a 15 mile corridor transportation planning study between the City of Buffalo CBD and the Southtowns. Project included transportation planning, origin-destination surveys, traffic count program, capacity analysis, traffic projections, construction cost estimates, feasibility report preparation, community participation and supervision of two sub-consultants providing economic and environmental portions of the study.

Corridor Environmental Study: Routes 101/51 - New Hampshire

Responsible for developing base year AM and PM peak hour highway traffic for a seven mile corridor environmental study. The base year traffic data was developed for a 50 mile square study area using TMODEL2. Future AM and PM peak hour traffic volumes for 21 alternative interchange configurations were developed for two target years.

Northeast Amherst, Traffic Study, Amherst, New York

Project Engineer for traffic study and transportation plan update, Town of Amherst, New York which included determination of roadway traffic deficiencies and roadway geometric and traffic control changes to resolve deficiencies.

Rehabilitation of Delaware Avenue, Buffalo, New York

Responsible Engineer for the rehabilitation of Delaware Avenue, Buffalo, New York. Responsibilities included the design of acutated traffic and pedestrian signals for 20 intersections, specification of traffic signs and locations, design of traffic maintenance and control plan for work zones and cost estimates of construction.

Orchard Park Commerce Center, Orchard Park, New York

Project Engineer responsible for scoping, organizing and completing traffic impact study for a proposed high technology Research and Development Center encompassing 144 acres. Proposed development consisted of mixed land use that included office space, light industry, banks, restaurants, hotel and storage/warehouse to be constructed in two phases. The traffic analyses included level of service, signal warrants, traffic diversion and weave operations. Responsible for supervision of field inventory of streets, traffic controls and traffic counts; performing traffic analyses; developing site trip and area traffic forecasts; determining area highway and intersection deficiencies; developing remediation measures and costs for different access scenarios for each phase of construction; and preparing traffic component for EIS report.

Lackawanna Tire Recycling Facility

Project Engineer for the traffic impact study for the planned tire recycling facility to be located in Lackawanna, New York. Study consisted of determining the traffic impacts of the new facility on the surrounding roadway system. Included were machine and manual traffic counting, trip generation, capacity analysis and traffic projections.

'ryant Woods Office Development, Amherst, New York

Update of a traffic impact study conducted in 1986. Purpose of the study was to determine impact of revised proposed land use development on existing traffic patterns. The study involved collecting highway traffic counts and peak hour turning movements and performing field inventory of existing highway characteristics. Traffic analyses and projections were performed and recommendations were made to accommodate forecasted future traffic volumes.

CWM Chemical Services

Project Engineer for the traffic impact study for the planned expansion of CWM's facility in Model City, New York. Project included machine and manual counting program, trip generation, capacity analysis, determination of traffic projections and deficient geometrics.

Another study evaluated the existing process of how waste haulers proceed through the site. The process was analyzed and recommendations were made to make the THROUGH-PUT process of waste haulers more efficient and less time consuming.

Allen Street Corridor Traffic Study: Buffalo, New York

Project Engineer responsible for investigating cause of existing traffic delays and congestion along a 4 block long 2 lane arterial with curb parking in an old neighborhood business district with shops, restaurants and businesses and recommending alternative mitigation measures to alleviate delays and congestion. Organized and supervised field inventory of parking conditions, street and intersection geometry, existing traffic controls and turning movements during peak periods. Analyzed alternatives to mitigate delays and congestion; prepared recommendations; identified impacts on parking spaces, queue lengths at intersection approaches, and average delay of vehicles; developed cost estimates for implementation of recommendations; and prepared a final report for presentation to the city. Recommendations included revisions to signal phasing, signal splits, implementation of turn lanes, lane striping and removal of limited on street parking spaces.

Signal Timing Optimization: Tupper Street and Delaware Avenue, Buffalo, New York

Responsible for developing traffic signal plans for a series of signals for different time periods of the day to optimize traffic flow. Studies involved different theories of optimization, including maximizing band width and minimizing fuel consumption. Developed salient parameters of traffic signal timing for implementation, including cycle length, phases, splits, offsets, maximum gap, minimum gap, maximum green, minimum green, initial green and green extension, utilizing PC computer software TRANSYT 7F and PASSER II.

Roadway Rehabilitation - M.P. 180 to M.P. 200 New York State Thruway Authority

Responsible Engineer for the rehabilitation of the New York State Thruway, 20 mile section, east of Utica, New York. Responsibilities included determination of roadway accident relationships, corresponding appropriate geometric and traffic control solutions, and determination of location and form of traffic barriers; criteria utilized to define need for glare screens; location of glare screens; specific form of glare screen, and tandem truck lot review analysis and design layout.

Roadway Rehabilitation - M.P. 466 to M.P. 486 New York State Thruway Authority

Responsible Engineer for the rehabilitation of the New York State Thruway, 20 mile section, west of Buffalo, New York. Responsibilities included determination of roadway accident relationships and corresponding appropriate geometric and traffic control solutions, and analyzing existing roadway geometrics and developing recommended improvements to conform to current freeway standards.

CWM – Model City, New York

Traffic Impact Study

LOCATION:

Balmer Road
Towns of Lewiston and Porter
Niagara County, New York

PREPARED BY:

Wendel Companies
140 John James Audubon Parkway
Suite 200
Amherst, New York 14228

December 2011

Table of Contents

Executive Summary

CWM Chemical Services, LLC has made application to the New York State Department of Environmental Conservation (NYSDEC) for construction of a new landfill (RMU-2) that will replace the existing landfill (RMU-1) upon its closure (proposed action). Accordingly, this action is subject to environmental review under the State Environmental Quality Review Act (SEQR). This traffic impact study (TIS) has been prepared as supporting documentation for the SEQR assessment.

This TIS was conducted to assess the potential traffic impacts of operating a new landfill with the assumption that the maximum permitted annual waste intake, as currently established, will not increase. Consequently, traffic operations relative to vehicle types and volume will remain constant once the new landfill becomes operational.

The objectives of the TIS are:

1. Observe existing traffic operations in the vicinity of the landfill;
2. Evaluate whether the operation of a new landfill will have any measureable change in intersection Level of Service (LOS) at nearby intersections compared to current conditions; and,
3. Identify mitigation measures (if necessary) that can be implemented to avoid or minimize potential impacts to the transportation system to the extent practicable.

Synchro Version 7 traffic modeling software was used to conduct two traffic operational analyses:

1. Existing traffic operations (with separate truck count); and,
2. Proposed action traffic operations, which includes operation of the new landfill with existing non-truck traffic counts plus the maximum truck traffic volumes to/from the site (as allowed under the current Site Operations Plan).

The project site is located on the south side of Balmer Road, west of Porter Center Road, in the Town of Porter, Niagara County, New York (See Appendix A, Project Location Map). Automobile and truck access to the project site is via an access drive to/from Balmer Road.

In order to properly identify and evaluate the potential impacts to the transportation system resulting from the operation of the new landfill, manual turning movement counts used in the development of the TIS were taken during the morning (7:00am-8:00am), mid-day (11:00am-12:00pm) and evening (4:00pm-5:00pm) peak hours on Thursday, October 20, 2011. The following intersections were counted and then modeled to evaluate traffic operations:

1. Balmer Road and the Site Access Drive (unsignalized).
2. State Route 18 (Creek Road) and Balmer Road (unsignalized).
3. State Route 18 (Creek Road) and Pletcher Road (signalized).

A classification count was taken to observe the number and movement of trucks in the area of the landfill. The classification counts indicate that roadways in the vicinity of the site experience truck traffic volumes that are significantly lower than the maximum hourly truck traffic that is permitted by the Site Operations Plan.

Under the proposed action, which assumes the maximum truck trips permitted by the Site Operations Plan, there are no significant changes in traffic operations during any of the three peak hours. Specifically, the following was determined from the TIS:

- Individual approaches at the unsignalized intersection of Balmer Road and the Site Access Drive will continue to operate at a LOS B or better during all three peak hours.
- Individual approaches at the unsignalized intersection of State Route 18 and Balmer Road will continue to operate at a LOS B or better during all three peak hours.
- The signalized intersection of State Route 18 and Pletcher Road will continue to operate at an overall LOS of B or better during all three peak hours.

After evaluating the traffic operational analysis, operating a new landfill with the assumption that operation of the new landfill will include the maximum potential truck traffic, as permitted by the Site Operations Plan, will not result in any significant impacts to the traffic operations of the nearby highway system. Further, no mitigation or other improvements are recommended to the transportation system as part of the operation of the new landfill.

I. Introduction

CWM Chemical Services, LLC has made application to the NYSDEC for construction of a new landfill (RMU-2) that will replace the existing landfill (RMU-1) upon its closure (proposed action). Accordingly, this action is subject to environmental review under the SEQR. This TIS has been prepared as supporting documentation for the SEQR assessment.

This TIS was conducted to assess the potential traffic impacts of operating a new landfill with the assumption that the maximum permitted annual waste intake and daily truck traffic volumes, as currently established, will not increase. Consequently, traffic operations relative to vehicle types and volume will remain constant once the new landfill becomes operational.

The objectives of the TIS are:

1. Observe existing traffic operations in the vicinity of the landfill;
2. Evaluate whether the operation of a new landfill will have any measureable change in intersection LOS at nearby intersections compared to current conditions; and,
3. Identify mitigation measures (if necessary) that can be implemented to avoid or minimize potential impacts to the transportation system to the extent practicable.

This TIS utilizes traffic impact study processes and methodologies that are generally accepted by the New York State Department of Transportation (NYSDOT). Synchro Version 7 traffic modeling software was used to conduct two traffic operational analyses:

1. Existing traffic operations (with separate truck count); and,
2. Proposed action traffic operations, which includes operation of the new landfill with existing non-truck traffic counts plus the maximum truck traffic volumes to/from the site (as allowed under the current Site Operations Plan).

Synchro is based on methodologies presented in the 2000 Highway Capacity Manual that describe the operation of both signalized and unsignalized intersections. Although the 2000 Highway Capacity Manual does take into account the effects of adjacent traffic signals on overall operations, Synchro provides a more refined process to account for signal actuation, progression between signals, and impacts of traffic queues. This program is an industry accepted standard and was therefore used to accurately determine the LOS for traffic traveling through the study area intersections.

The LOS for both signalized and unsignalized intersections are defined in terms of control delay. Control delay is a measure of the total travel time lost and includes slowing delay, stopped delay, queue move up time, and start up lost time. LOS thresholds are defined as the average delay in seconds per vehicle over a fifteen-minute analysis period and range

from LOS A to LOS F for both signalized and unsignalized intersections. LOS A represents operating conditions of freely flowing traffic with little or no delay. LOS F represents operating conditions of highly congested traffic with forced (breakdown) flow and substantial delays. The following provides a summary of the Level of Service thresholds as defined in the 2000 Highway Capacity Manual.

Table 1: Level of Service Thresholds

Level of Service Thresholds	Signalized Intersections (seconds of delay)	Unsignalized Intersections (seconds of delay)
A – Little or no delay	Less than 10.0 seconds	Less than 10.0 seconds
B – Minor, short delays	10.1 to 20.0 seconds	10.1 to 15.0 seconds
C – Average delays	20.1 to 35.0 seconds	15.1 to 25.0 seconds
D – Long but acceptable delays	35.1 to 55.0 seconds	25.1 to 35.0 seconds
E – Long, near unacceptable delays	55.1 to 80.0 seconds	35.1 to 50.0 seconds
F – Unacceptable delays	More than 80.0 seconds	More than 50.0 seconds

An overall intersection LOS D or better is generally considered acceptable at a signalized intersection. An overall intersection LOS E or better is considered acceptable at an unsignalized intersection. The acceptable LOS thresholds are lower for an unsignalized intersection because drivers generally expect longer delays at unsignalized intersections versus signalized ones.

II. Project Location and Description

The project site is located on the south side of Balmer Road, west of Porter Center Road, in the Town of Porter, Niagara County, New York (See Appendix A, Project Location Map). Automobile and truck access to the project site is via an access drive to/from Balmer Road.

III. Existing Transportation System

Roadways

Balmer Road is an east-west oriented, two-lane road classified as a local street. The roadway consists of 24 feet of pavement width with 6 foot paved shoulders on both sides. The posted speed limit is 55 mph. Balmer Road experiences an annual average daily traffic (AADT) of 696 vehicles (Greater Buffalo-Niagara Regional Transportation Authority [GBNRTC]).

The site access drive is stop controlled approaching Balmer Road. There is a dedicated right turn lane from eastbound Balmer Road to the site access drive. Balmer Road

intersects with State Route 18 (Creek Road) forming a T intersection approximately 3 miles west of the site access. The approach from Balmer Road is stop controlled.

Pletcher Road is an east-west oriented, two-lane local road classified as a Collector west of State Route 18 and as a local road east of State Route 18. West of State Route 18, the roadway consists of 28 feet of pavement width and has a posted speed limit of 35 mph. The AADT on this section of Pletcher Road is 1,955 vehicles (GBNRTC). There is a full interchange with the Robert Moses Parkway west of State Route 18. East of State Route 18, the roadway consists of 28 feet of pavement width and the posted speed limit is 45 mph. The AADT on this section of Pletcher Road is 360 vehicles (GBNRTC). The intersection with State Route 18 is signalized.

State Route 18 is a north-south oriented, two-lane State road classified as a Minor Arterial north of Pletcher Road and a Principle Arterial south of Pletcher Road. The roadway consists of two 12 foot travel lanes with 8-10 foot paved shoulders on both sides. The posted speed limit is 45 mph. State Route 18 has an AADT of 4,082 vehicles (GBNRTC). Several driveways from the Lewiston-Porter School complex intersect with State Route 18 and consist of stop control at their approaches to State Route 18. The approach of Swann Road is stop controlled at State Route 18. The intersections of State Route 18/ State Route 104, State Route 18/ Pletcher Road, and State Route 18/ State Route 93 are controlled by traffic signals.

Public Transit

There is no public transit service along State Route 18 or Balmer Road, therefore, public transit service to the site is not directly available. The closest NFTA Metro Bus stop is in Niagara Falls.

Railroad

There are no active rail lines in the vicinity of the project site.

Pedestrian/ Bicycle

There are no sidewalks, multi-use paths, or bicycle facilities on or along any of the adjacent or nearby streets. Pedestrians and bicyclists share the shoulder of the roadway.

IV. CWM Site Operations Plan

The CWM Model City facility has developed a Site Operations Plan, which includes updates as outlined in Sitewide Part 373 Permit Module I. The Site Operations Plan sets forth standards for waste transport to the landfill. These standards were used as the basis for evaluating the maximum truck traffic to/from the site during the morning, mid-day, and

evening peak hours, as well as truck routing. The following standards were taken from the Site Operations Plan:

1. Non-CWM owned trucks carrying wastes or similar hazardous materials (e.g., acid used as a reagent in the AWT) will be scheduled for arrival or departure during the hours of 5:00am and 10:00pm, six days per week, except as noted below. CWM owned trucks will continue to be authorized to arrive and depart 24 hours per day. If non-CWM owned trucks carrying waste are within the boundaries of the Towns of Lewiston or Porter and are prevented from reaching the facility by 10:00pm as a result of mechanical malfunction or otherwise, the trucks shall be permitted to enter the facility upon arrival. CWM will report monthly to the Towns and County the number of and reason for late arrivals.
2. All trucks transporting, in bulk, blended fuels, PCB contaminated oils, or liquid or solid materials which present a risk of vapor release or fuming will be scheduled to arrive or depart the facility between 5:00am and 7:00am or between 4:00pm. The Permittee will obtain a copy of the Lewiston-Porter School "event" calendar and attempt to schedule shipments of the aforementioned materials so as to avoid events that are expected to be heavily attended.
3. No trucks carrying hazardous waste to the facility will be scheduled for arrival or departure between 7:30am and 9:00am or between 2:15pm and 3:45pm on days when the Lewiston-Porter School complex is in session. Trucks may be moved from CWM's transportation facility at 1135 Balmer Road to the TSDF site at 1550 Balmer Road during these hours.
4. No more than 35 waste trucks per hour will be scheduled for arrival or departure during the hours of 6:00am to 12:00pm. No more than 25 waste trucks per hour will be scheduled for arrival or departure during the hours of 5:00am to 6:00am and 12:00pm to 10:00pm, with the exceptions noted above.
5. Not more than 220 waste trucks will be scheduled for arrival during any 24-hour period, except for unusual circumstances, in which event no more than 250 waste trucks will be scheduled for arrival during any 24-hour period. Notice of any such unusual circumstances will be provided to the Towns, the County, and the Lewiston-Porter School District.
6. Except in the event of an emergency situation, no more than 45 CWM owned waste trucks will be scheduled to arrive or depart between the hours of 10:00pm and 5:00am. In the event of an emergency, any additional scheduling between 10:00pm and 5:00am will be subject to DEC approval with notice to the Towns and the County.
7. These resolutions do not apply to trucks delivering supplies and materials (e.g., cement, diesel fuel, propane, etc.).

8. Trucks carrying wastes to the facility and arriving via I-190 shall use the existing designated route. Trucks carrying wastes to the facility arriving from the eastern part of Niagara County shall use available State highways to Balmer Road. CWM will designate an alternative inbound route for trucks arriving via I-190 if adequate traffic safety devices (signals) are installed at the cloverleaf off ramp left turn onto Rt. 104 East.
9. Trucks carrying hazardous waste to the facility and arriving via I-190 shall use the existing designated route. Trucks carrying hazardous wastes to the facility arriving from the eastern part of Niagara County shall use the designated state highways to Balmer Road. The Permittee will designate an alternate inbound route for trucks arriving via I-190 if adequate traffic safety devices (signals) are installed at the cloverleaf off ramp left turn onto State Route 104 East.
10. No more than 8 empty waste trucks per hour leaving the facility eastbound shall be scheduled to use existing State highways to the East. Empty trucks leaving the facility southbound or westbound shall use the designated inbound route.
11. CWM, jointly with Lewiston, Porter, Niagara, the Board and/or ROLE, will pursue the possibility of using CWM's transportation facility in Tonawanda, NY as a staging area for inbound waste trucks using I-190, including non-CWM trucks, without the need to obtain any type of hazardous waste management facility permit or siting certificate.
12. The landfill will operate 24-hours per day, 6-days per week, except where special permission is obtained from DEC to operate on Sunday.

The designated route for trucks arriving or departing the facility, as outlined in the Site Operations Plan, is as follows:

A. State/ Federal highways only when entering Niagara County to SR 104 or NYS Thruway (I-190) north to SR 265 (north) to SR 104 then:
    1. State Route 104 to State Route 18
    2. North on State Route 18 approximately 5 miles to Balmer Road
    3. Right (east) on Balmer Road
    4. Proceed 3 miles to Guardhouse at truck/ plant entrance

B. The reverse shall be followed when leaving the facility. All waste haulers must use this route unless the CWM guard directs the driver north on State Route 18 to State Route 93 east during school "black out" hours for empty loads only. There is no stopping or standing along the designated route. Trucks are not allowed to be on any other roadway other than State/Federal highways when in Niagara County (with the exception of

Balmer Road). No convoys are permitted in the Towns of Lewiston or Porter (keep trucks ¼ mile apart) to the extent possible.

V. Existing Traffic Operations

Manual turning movement counts used in the development of the TIS were taken during the morning (7:00am-8:00am), mid-day (11:00am-12:00pm) and evening (4:00am-5:00pm) peak hours on Thursday, October 20, 2011. The following intersections were counted and then modeled to evaluate traffic operations:

1. Balmer Road and the Site Access Drive (unsignalized).
2. State Route 18 (Creek Road) and Balmer Road (unsignalized).
3. State Route 19 (Creek Road) and Pletcher Road (signalized).

A classification count was taken to observe the number and movement of trucks in the area of the landfill. The classification counts indicate that roadways in the vicinity of the site experience truck traffic volumes that are significantly lower than the maximum hourly truck traffic that is permitted by the Site Operations Plan. Figure 1 indicates the results of the existing peak hour traffic counts for all vehicles. Figure 2 provides the existing truck traffic volumes for each of the peak hour periods.

Figure 1: Existing Traffic Volumes (All Vehicles)

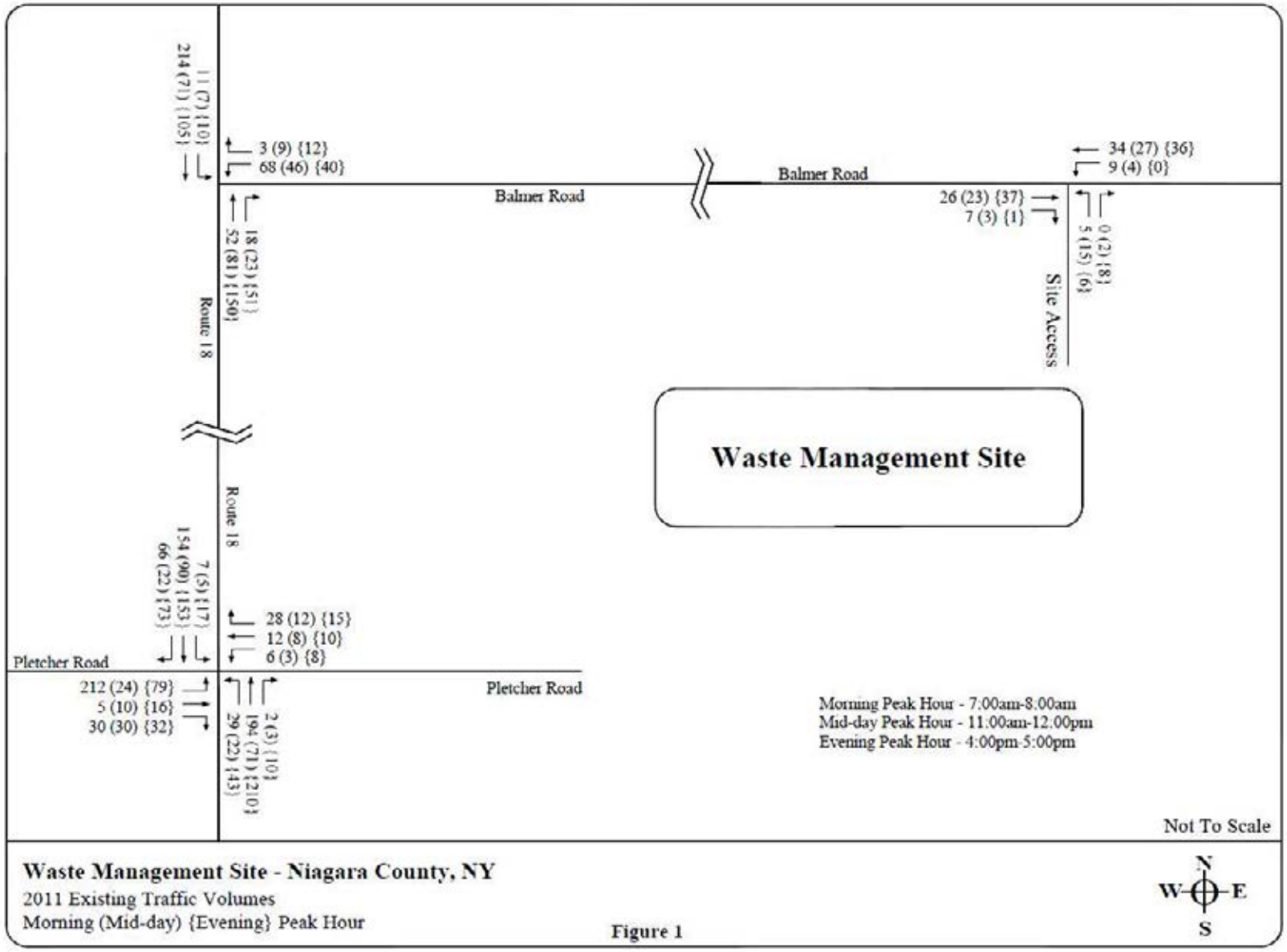
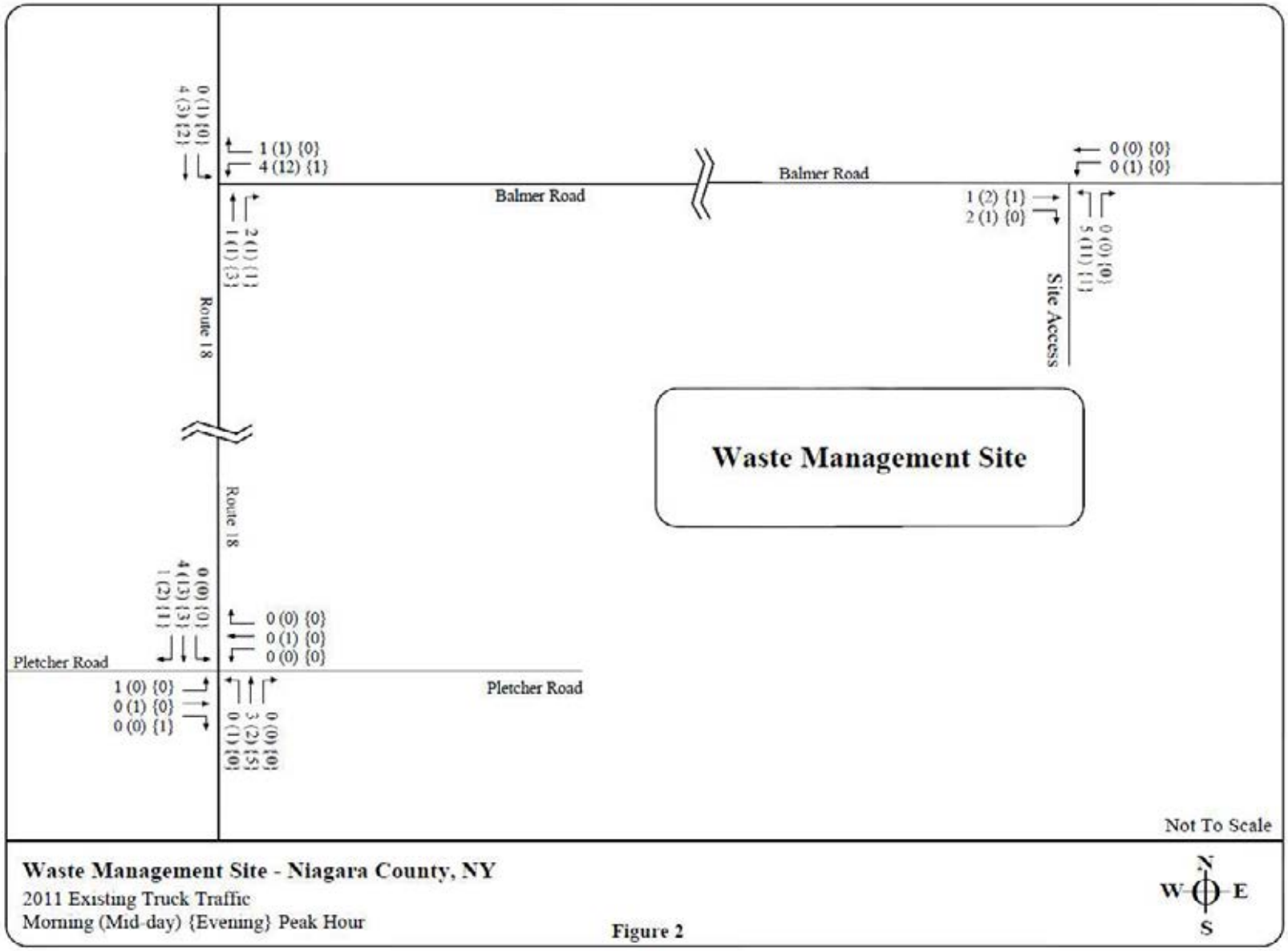


Figure 2: Existing Truck Traffic Volumes



VI. Proposed Action Traffic Operations

Since RMU-1 is already operating, it is anticipated that traffic operations relative to vehicle types and volume will remain constant once RMU-2 becomes operational and that additional traffic will not be generated. Therefore, the proposed action traffic operations consists of an analysis conducted on existing non-truck traffic counts plus the maximum truck traffic volume to/from the site (as allowed under the current Site Operations Plan).

To establish the non-truck traffic volumes on the roadway network, the number of trucks counted in the existing traffic operations were subtracted from the total traffic counts.

To establish the maximum number of trucks that would travel to/from the site, the Site Operations Plan was used as guidance, which establishes the following maximum truck trips per hour:

- Morning Peak Hour (7:00am- 8:00am) – 70 truck trips (35 entering and 35 exiting)
- Mid-day Peak Hour (11:00am- 12:00pm) – 70 truck trips (35 entering and 35 exiting)
- Evening Peak Hour (4:00pm- 5:00pm) – 50 truck trips (25 entering and 25 exiting)

The maximum number of trucks were then distributed to the roadway network based on the distribution of existing truck traffic, as determined by the manual turning movement counts performed for this TIS. Therefore, to evaluate the proposed action, 90% of the truck traffic was distributed south on State Route 18 and 10% was distributed to the north on State Route 18.

The maximum permitted truck traffic was then added to the existing non-truck traffic volumes on the roadway network to evaluate the proposed action. Figure 3 indicates the maximum truck traffic volumes for each of the three peak hours. Figure 4 provides the proposed action traffic volumes, with the total maximum traffic volumes for each of the three peak hours.

Figure 3: Maximum Truck Traffic Volumes

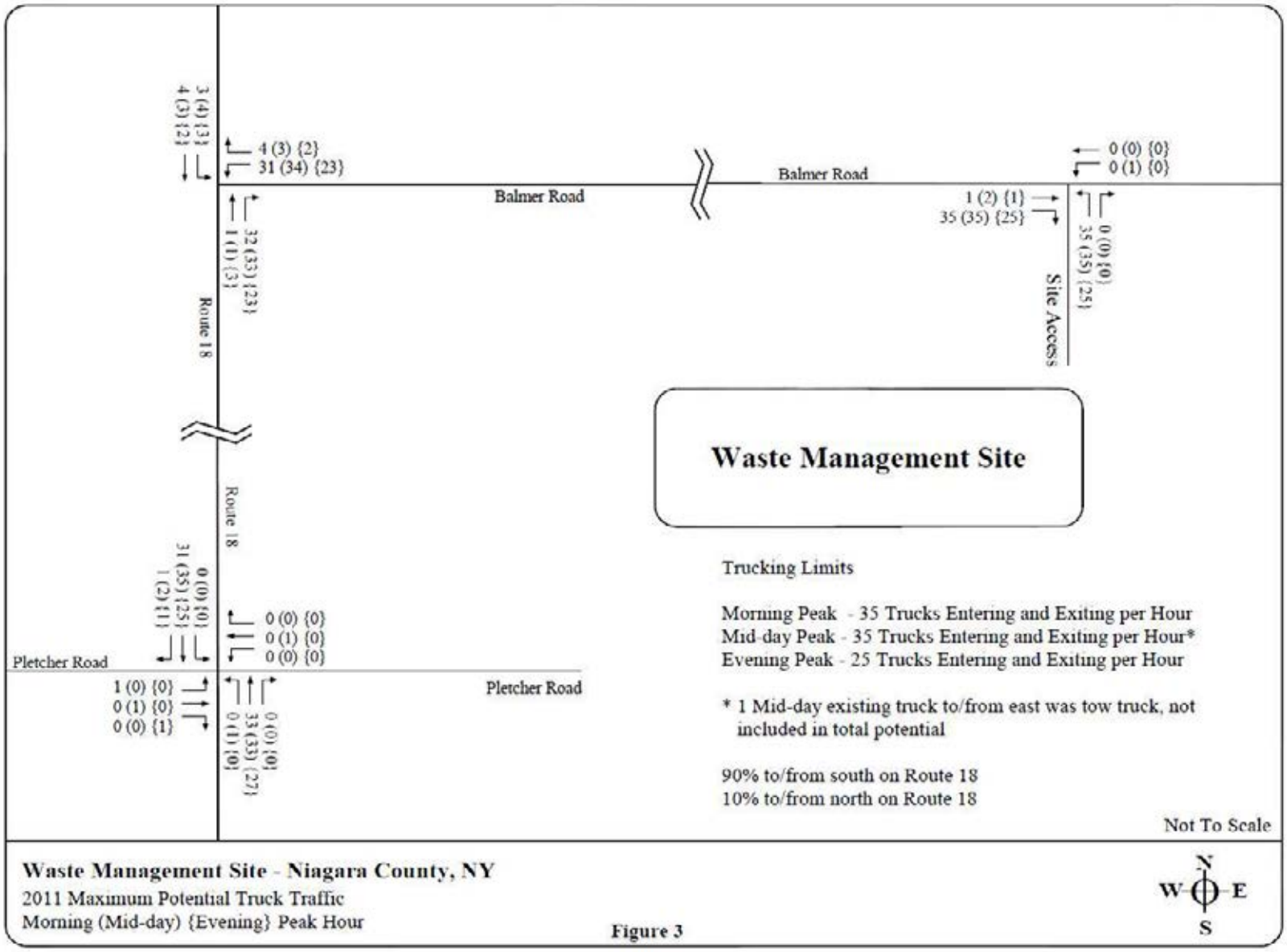
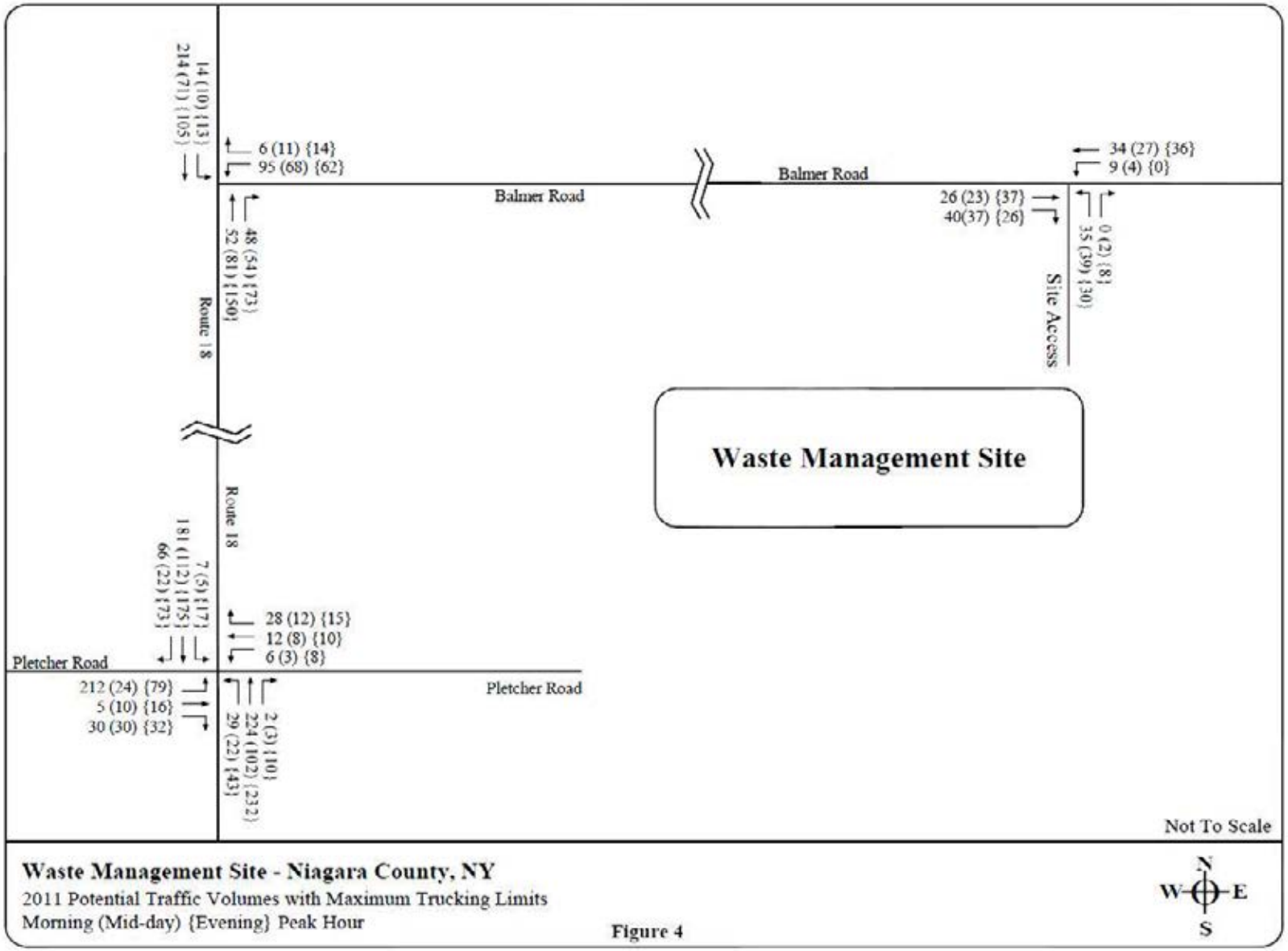


Figure 4: Proposed Action Traffic Volumes



VII. Potential Traffic Impacts

Under the proposed action, which assumes the maximum truck trips permitted by the Site Operations Plan, there are no significant changes in traffic operations during any of the three peak hours.

- Individual approaches at the unsignalized intersection of Balmer Road and the Site Access Drive will continue to operate at a LOS B or better during all three peak hours.
- Individual approaches at the unsignalized intersection of State Route 18 and Balmer Road will continue to operate at a LOS B or better during all three peak hours.
- The signalized intersection of State Route 18 and Pletcher Road will continue to operate at an overall LOS of B or better during all three peak hours.

Figure 5 outlines the existing and proposed action LOS for the three study intersections during all three peak hours.

VIII. Conclusion

After evaluating the traffic operational analysis, operating a new landfill with the assumption that operation of the new landfill will include the maximum potential truck traffic, as permitted by the Site Operations Plan, will not result in any significant impacts to the traffic operations of the nearby highway system. Further, no mitigation or other improvements are recommended to the transportation system as part of the operation of the new landfill.

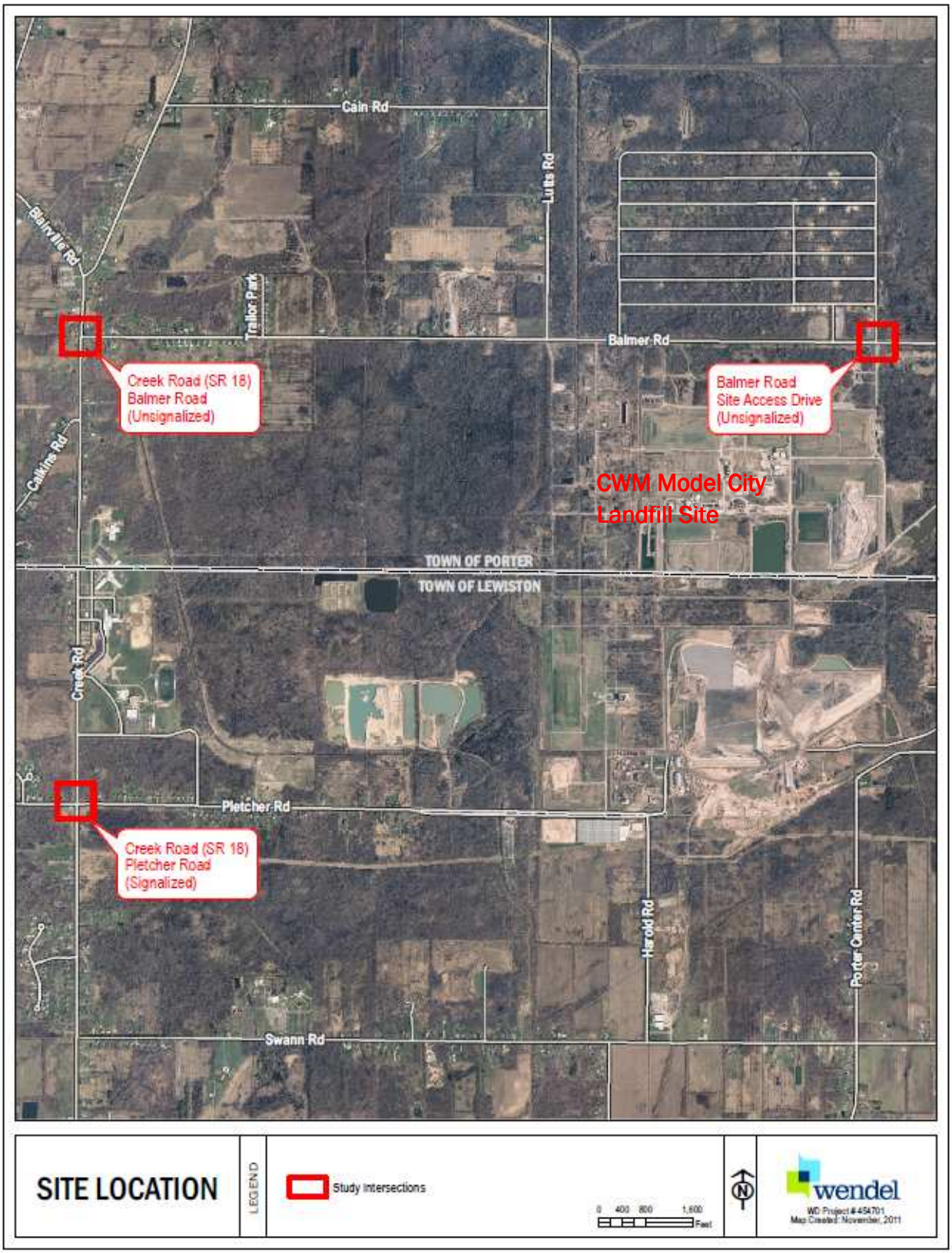
Figure 5: Intersection Level of Service Summary

Intersection Level of Service Summary
Waste Management Site – Niagara County, NY

Intersection	2011 Existing Conditions			2011 with Maximum Truck Potential		
	Morning Peak Hour	Mid-Day Peak Hour	Evening Peak Hour	Morning Peak Hour	Mid-Day Peak Hour	Evening Peak Hour
Route 18 (Creek Road) @ Plechter Road	**B(17)**	**A(7)**	**A(8)**	**B(19)**	**A(7)**	**A(9)**
EB Left/Through/Right	C(28)	B(11)	B(15)	C(30)	B(11)	B(15)
WB Left/Through/Right	A(7)	B(11)	B(11)	A(8)	B(11)	B(11)
NB Left/Through/Right	B(13)	A(5)	A(7)	B(15)	A(5)	A(8)
SB Left/Through/Right	B(12)	A(5)	A(6)	B(13)	A(5)	A(6)
Route 18 (Creek Road) @ Balmer Road						
WB Left/Right	b(12)	b(11)	b(11)	b(14)	b(11)	b(12)
NB Through/Right	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
SB Left/Through	a(1)	a(1)	a(1)	a(1)	a(1)	a(1)
Balmer Road @ Site Driveway						
EB Through/Right	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
EB Right	a(0)	a(0)	a(0)	a(0)	a(0)	a(0)
WB Left/Through	a(2)	a(1)	a(0)	a(2)	a(1)	a(0)
NB Left/Right	b(11)	a(10)	a(9)	b(11)	b(11)	a(10)

B(12) - Signalized Movement Level of Service (Average Delay per Vehicle in Seconds)
a(8) – Unsignalized Movement Level of Service (Average Delay per Vehicle in Seconds)

APPENDIX A – Project Location Map



APPENDIX B – Synchro Traffic Analysis Output

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

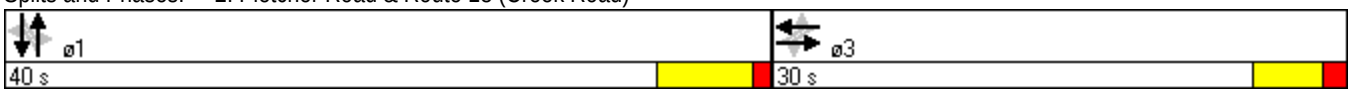
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	5	30	6	12	28	29	194	2	7	154	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1778	0	0	1732	0	0	1855	0	0	1776	0
Flt Permitted		0.710			0.944			0.925			0.987	
Satd. Flow (perm)	0	1316	0	0	1647	0	0	1726	0	0	1756	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			40			1			41	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1093			650			819			796	
Travel Time (s)		16.6			12.7			12.4			12.1	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	2%	0%	0%	3%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	353	0	0	66	0	0	321	0	0	324	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phase	3	3		3	3		1	1		1	1	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		31.0	31.0		31.0	31.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		20.0			20.0			26.1			26.1	
Actuated g/C Ratio		0.35			0.35			0.46			0.46	
v/c Ratio		0.75			0.11			0.41			0.39	
Control Delay		27.7			7.2			13.4			11.6	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		27.7			7.2			13.4			11.6	
LOS		C			A			B			B	
Approach Delay		27.7			7.2			13.4			11.6	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)		97			6			71			61	
Queue Length 95th (ft)		137			19			100			88	
Internal Link Dist (ft)		1013			570			739			716	
Turn Bay Length (ft)												
Base Capacity (vph)		588			750			1037			1072	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.60			0.09			0.31			0.30	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 57.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 17.2 Intersection LOS: B
Intersection Capacity Utilization 53.5% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Pletcher Road & Route 18 (Creek Road)



Lanes, Volumes, Timings
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	68	3	52	18	11	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1682	0	1758	0	0	1861
Flt Permitted	0.954					0.998
Satd. Flow (perm)	1682	0	1758	0	0	1861
Link Speed (mph)	45		45			45
Link Distance (ft)	1130		1008			957
Travel Time (s)	17.1		15.3			14.5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	6%	33%	2%	11%	0%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	95	0	93	0	0	300
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 29.2% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	68	3	52	18	11	214
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	91	4	69	24	15	285
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	396	81			93	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	396	81			93	
tC, single (s)	6.5	6.5			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.6			2.2	
p0 queue free %	85	100			99	
cM capacity (veh/h)	595	899			1514	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	95	93	300
Volume Left	91	0	15
Volume Right	4	24	0
cSH	604	1700	1514
Volume to Capacity	0.16	0.05	0.01
Queue Length 95th (ft)	14	0	1
Control Delay (s)	12.1	0.0	0.4
Lane LOS	B		A
Approach Delay (s)	12.1	0.0	0.4
Approach LOS	B		

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		29.2%	ICU Level of Service
Analysis Period (min)		15	

Lanes, Volumes, Timings
12: Balmer Road & Site Driveway

11/16/2011

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	26	7	9	34	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		615	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)		25	25		25	25
Satd. Flow (prot)	1827	1252	0	1879	902	0
Flt Permitted				0.989	0.950	
Satd. Flow (perm)	1827	1252	0	1879	902	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	765			745	383	
Travel Time (s)	9.5			9.2	8.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	4%	29%	0%	0%	100%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	9	0	56	6	0
Sign Control	Free			Free	Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.0% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
12: Balmer Road & Site Driveway

11/16/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	26	7	9	34	5	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	33	9	12	44	6	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			42		100	33
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			42		100	33
tC, single (s)			4.1		7.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		4.4	3.3
p0 queue free %			99		99	100
cM capacity (veh/h)			1580		703	1046

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	33	9	55	6
Volume Left	0	0	12	6
Volume Right	0	9	0	0
cSH	1700	1700	1580	703
Volume to Capacity	0.02	0.01	0.01	0.01
Queue Length 95th (ft)	0	0	1	1
Control Delay (s)	0.0	0.0	1.6	10.2
Lane LOS			A	B
Approach Delay (s)	0.0		1.6	10.2
Approach LOS				B

Intersection Summary				
Average Delay			1.5	
Intersection Capacity Utilization			19.0%	ICU Level of Service
Analysis Period (min)			15	

A

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

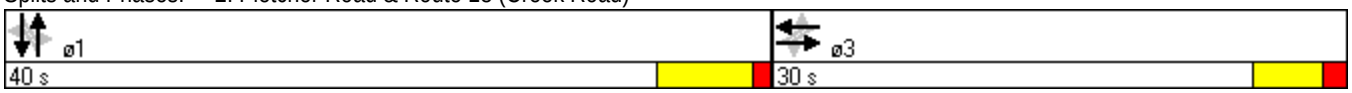
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	10	30	3	8	12	22	71	3	5	90	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1719	0	0	1685	0	0	1811	0	0	1644	0
Flt Permitted		0.866			0.938			0.917			0.988	
Satd. Flow (perm)	0	1516	0	0	1590	0	0	1679	0	0	1628	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			16			3			23	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1093			650			819			796	
Travel Time (s)		16.6			12.7			12.4			12.1	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	10%	0%	0%	12%	0%	5%	3%	0%	0%	14%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	31	0	0	130	0	0	159	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phase	3	3		3	3		1	1		1	1	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		31.0	31.0		31.0	31.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		9.5			9.5			25.4			25.4	
Actuated g/C Ratio		0.25			0.25			0.68			0.68	
v/c Ratio		0.21			0.07			0.11			0.14	
Control Delay		11.0			11.1			4.8			4.5	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.0			11.1			4.8			4.5	
LOS		B			B			A			A	
Approach Delay		11.0			11.1			4.8			4.5	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		10			3			12			14	
Queue Length 95th (ft)		28			15			26			28	
Internal Link Dist (ft)		1013			570			739			716	
Turn Bay Length (ft)												
Base Capacity (vph)		1044			1086			1432			1391	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.08			0.03			0.09			0.11	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 37.4
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.21
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 38.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Pletcher Road & Route 18 (Creek Road)



Lanes, Volumes, Timings
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	46	9	81	23	7	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1444	0	1813	0	0	1801
Flt Permitted	0.960					0.995
Satd. Flow (perm)	1444	0	1813	0	0	1801
Link Speed (mph)	45		45			45
Link Distance (ft)	1130		1008			957
Travel Time (s)	17.1		15.3			14.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	26%	11%	1%	4%	14%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	60	0	113	0	0	85
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.6% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	46	9	81	23	7	71
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	50	10	88	25	8	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	193	101			113	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	193	101			113	
tC, single (s)	6.7	6.3			4.2	
tC, 2 stage (s)						
tF (s)	3.7	3.4			2.3	
p0 queue free %	93	99			99	
cM capacity (veh/h)	740	931			1405	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	60	113	85
Volume Left	50	0	8
Volume Right	10	25	0
cSH	766	1700	1405
Volume to Capacity	0.08	0.07	0.01
Queue Length 95th (ft)	6	0	0
Control Delay (s)	10.1	0.0	0.7
Lane LOS	B		A
Approach Delay (s)	10.1	0.0	0.7
Approach LOS	B		

Intersection Summary			
Average Delay		2.6	
Intersection Capacity Utilization		19.6%	ICU Level of Service
Analysis Period (min)		15	

Lanes, Volumes, Timings
12: Balmer Road & Site Driveway

11/16/2011

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	23	3	4	27	15	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		615	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)		25	25		25	25
Satd. Flow (prot)	1743	1214	0	1830	1081	0
Flt Permitted				0.994	0.957	
Satd. Flow (perm)	1743	1214	0	1830	1081	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	765			745	383	
Travel Time (s)	9.5			9.2	8.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	9%	33%	25%	0%	73%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	4	0	39	21	0
Sign Control	Free			Free	Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.8% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
12: Balmer Road & Site Driveway

11/16/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	23	3	4	27	15	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	29	4	5	34	19	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			32		72	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			32		72	29
tC, single (s)			4.3		7.1	6.2
tC, 2 stage (s)						
tF (s)			2.4		4.2	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1443		779	1052

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	29	4	39	21
Volume Left	0	0	5	19
Volume Right	0	4	0	2
cSH	1700	1700	1443	804
Volume to Capacity	0.02	0.00	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	1.0	9.6
Lane LOS			A	A
Approach Delay (s)	0.0		1.0	9.6
Approach LOS				A

Intersection Summary				
Average Delay			2.6	
Intersection Capacity Utilization			14.8%	ICU Level of Service
Analysis Period (min)			15	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

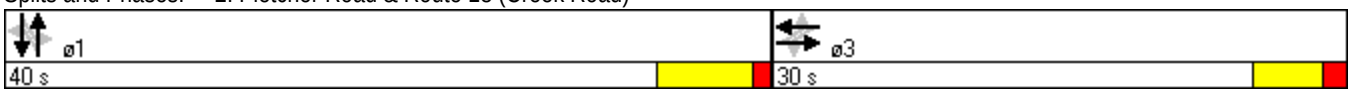
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	79	16	32	8	10	15	43	210	10	17	153	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1767	0	0	1765	0	0	1846	0	0	1789	0
Flt Permitted		0.789			0.888			0.910			0.965	
Satd. Flow (perm)	0	1437	0	0	1586	0	0	1693	0	0	1733	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			16			4			43	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1093			650			819			796	
Travel Time (s)		16.6			12.7			12.4			12.1	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	2%	0%	0%	2%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	36	0	0	289	0	0	267	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phase	3	3		3	3		1	1		1	1	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		31.0	31.0		31.0	31.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		13.3			13.3			24.8			24.8	
Actuated g/C Ratio		0.34			0.34			0.63			0.63	
v/c Ratio		0.28			0.07			0.27			0.24	
Control Delay		14.5			10.5			6.9			5.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.5			10.5			6.9			5.8	
LOS		B			B			A			A	
Approach Delay		14.5			10.5			6.9			5.8	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		26			4			35			26	
Queue Length 95th (ft)		62			20			84			68	
Internal Link Dist (ft)		1013			570			739			716	
Turn Bay Length (ft)												
Base Capacity (vph)		914			1004			1327			1367	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.04			0.22			0.20	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 39.4
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.28
Intersection Signal Delay: 8.2 Intersection LOS: A
Intersection Capacity Utilization 47.9% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Pletcher Road & Route 18 (Creek Road)



Lanes, Volumes, Timings
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	40	12	150	51	10	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1732	0	1826	0	0	1855
Flt Permitted	0.963					0.996
Satd. Flow (perm)	1732	0	1826	0	0	1855
Link Speed (mph)	45		45			45
Link Distance (ft)	1130		1008			957
Travel Time (s)	17.1		15.3			14.5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	3%	0%	0%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	59	0	228	0	0	130
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.8% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	40	12	150	51	10	105
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	45	14	170	58	11	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	341	199			228	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	341	199			228	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	98			99	
cM capacity (veh/h)	647	847			1340	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	59	228	131
Volume Left	45	0	11
Volume Right	14	58	0
cSH	684	1700	1340
Volume to Capacity	0.09	0.13	0.01
Queue Length 95th (ft)	7	0	1
Control Delay (s)	10.8	0.0	0.7
Lane LOS	B		A
Approach Delay (s)	10.8	0.0	0.7
Approach LOS	B		

Intersection Summary			
Average Delay		1.7	
Intersection Capacity Utilization		23.8%	ICU Level of Service
Analysis Period (min)		15	

Lanes, Volumes, Timings
12: Balmer Road & Site Driveway

11/16/2011

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	37	1	0	36	6	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		615	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)		25	25		25	25
Satd. Flow (prot)	1900	1568	0	1900	1600	0
Flt Permitted					0.979	
Satd. Flow (perm)	1900	1568	0	1900	1600	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	765			745	383	
Travel Time (s)	9.5			9.2	8.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	3%	0%	0%	17%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	1	0	42	16	0
Sign Control	Free			Free	Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 13.3% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
12: Balmer Road & Site Driveway

11/16/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	37	1	0	36	6	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	44	1	0	42	7	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			45		86	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			45		86	44
tC, single (s)			4.1		6.6	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.7	3.3
p0 queue free %			100		99	99
cM capacity (veh/h)			1576		880	1032

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	44	1	42	16
Volume Left	0	0	0	7
Volume Right	0	1	0	9
cSH	1700	1700	1576	961
Volume to Capacity	0.03	0.00	0.00	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	8.8
Lane LOS				A
Approach Delay (s)	0.0		0.0	8.8
Approach LOS				A

Intersection Summary				
Average Delay			1.4	
Intersection Capacity Utilization			13.3%	ICU Level of Service A
Analysis Period (min)			15	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

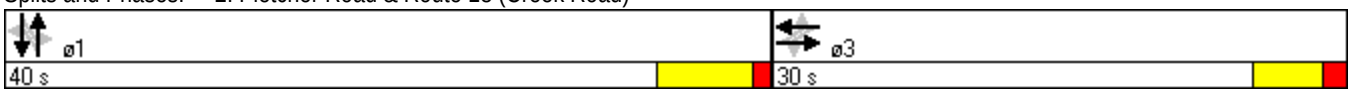
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	212	5	30	6	12	28	29	224	2	7	181	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1778	0	0	1732	0	0	1667	0	0	1626	0
Flt Permitted		0.710			0.944			0.928			0.988	
Satd. Flow (perm)	0	1316	0	0	1647	0	0	1556	0	0	1608	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			40			1			35	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1093			650			819			796	
Travel Time (s)		16.6			12.7			12.4			12.1	
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	15%	0%	0%	17%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	353	0	0	66	0	0	364	0	0	363	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phase	3	3		3	3		1	1		1	1	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		31.0	31.0		31.0	31.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		20.0			20.0			27.3			27.3	
Actuated g/C Ratio		0.34			0.34			0.47			0.47	
v/c Ratio		0.77			0.11			0.50			0.47	
Control Delay		30.3			8.0			14.6			12.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		30.3			8.0			14.6			12.8	
LOS		C			A			B			B	
Approach Delay		30.3			8.0			14.6			12.8	
Approach LOS		C			A			B			B	
Queue Length 50th (ft)		97			6			86			75	
Queue Length 95th (ft)		153			21			117			104	
Internal Link Dist (ft)		1013			570			739			716	
Turn Bay Length (ft)												
Base Capacity (vph)		577			737			919			963	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.61			0.09			0.40			0.38	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 58.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 18.5 Intersection LOS: B
Intersection Capacity Utilization 55.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 2: Pletcher Road & Route 18 (Creek Road)



Lanes, Volumes, Timings
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	95	6	52	48	14	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1333	0	1333	0	0	1836
Flt Permitted	0.955					0.997
Satd. Flow (perm)	1333	0	1333	0	0	1836
Link Speed (mph)	45		45			45
Link Distance (ft)	1130		1008			957
Travel Time (s)	17.1		15.3			14.5
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Heavy Vehicles (%)	33%	67%	2%	67%	21%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	135	0	133	0	0	304
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 31.0% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	95	6	52	48	14	214
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	127	8	69	64	19	285
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	424	101			133	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	424	101			133	
tC, single (s)	6.7	6.9			4.3	
tC, 2 stage (s)						
tF (s)	3.8	3.9			2.4	
p0 queue free %	76	99			99	
cM capacity (veh/h)	525	803			1342	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	135	133	304
Volume Left	127	0	19
Volume Right	8	64	0
cSH	536	1700	1342
Volume to Capacity	0.25	0.08	0.01
Queue Length 95th (ft)	25	0	1
Control Delay (s)	14.0	0.0	0.6
Lane LOS	B		A
Approach Delay (s)	14.0	0.0	0.6
Approach LOS	B		

Intersection Summary				
Average Delay		3.6		
Intersection Capacity Utilization		31.0%	ICU Level of Service	A
Analysis Period (min)		15		

Lanes, Volumes, Timings
12: Balmer Road & Site Driveway

11/16/2011

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	26	40	9	34	35	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		615	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)		25	25		25	25
Satd. Flow (prot)	1827	859	0	1879	902	0
Flt Permitted				0.989	0.950	
Satd. Flow (perm)	1827	859	0	1879	902	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	765			745	383	
Travel Time (s)	9.5			9.2	8.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Heavy Vehicles (%)	4%	88%	0%	0%	100%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	33	51	0	56	45	0
Sign Control	Free			Free	Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.0% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
12: Balmer Road & Site Driveway

11/16/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	26	40	9	34	35	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78
Hourly flow rate (vph)	33	51	12	44	45	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			85		100	33
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			85		100	33
tC, single (s)			4.1		7.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		4.4	3.3
p0 queue free %			99		94	100
cM capacity (veh/h)			1525		702	1046

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	33	51	55	45
Volume Left	0	0	12	45
Volume Right	0	51	0	0
cSH	1700	1700	1525	702
Volume to Capacity	0.02	0.03	0.01	0.06
Queue Length 95th (ft)	0	0	1	5
Control Delay (s)	0.0	0.0	1.6	10.5
Lane LOS			A	B
Approach Delay (s)	0.0		1.6	10.5
Approach LOS				B

Intersection Summary				
Average Delay			3.0	
Intersection Capacity Utilization			19.0%	ICU Level of Service A
Analysis Period (min)			15	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

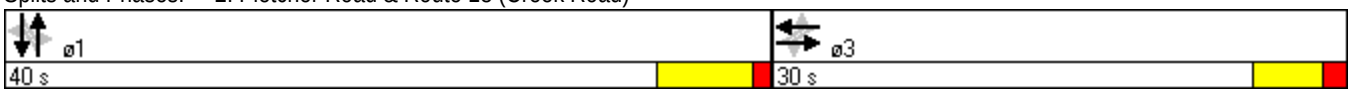
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	10	30	3	8	12	22	102	3	5	112	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1719	0	0	1685	0	0	1483	0	0	1468	0
Flt Permitted		0.866			0.938			0.931			0.989	
Satd. Flow (perm)	0	1516	0	0	1590	0	0	1394	0	0	1455	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		41			16			2			19	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1093			650			819			796	
Travel Time (s)		16.6			12.7			12.4			12.1	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Heavy Vehicles (%)	0%	10%	0%	0%	12%	0%	5%	32%	0%	0%	31%	9%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	31	0	0	172	0	0	188	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phase	3	3		3	3		1	1		1	1	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		31.0	31.0		31.0	31.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		9.5			9.5			25.5			25.5	
Actuated g/C Ratio		0.26			0.26			0.69			0.69	
v/c Ratio		0.21			0.07			0.18			0.19	
Control Delay		11.0			11.1			5.2			4.8	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.0			11.1			5.2			4.8	
LOS		B			B			A			A	
Approach Delay		11.0			11.1			5.2			4.8	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		10			3			18			17	
Queue Length 95th (ft)		28			15			34			34	
Internal Link Dist (ft)		1013			570			739			716	
Turn Bay Length (ft)												
Base Capacity (vph)		1058			1101			1192			1247	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.08			0.03			0.14			0.15	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 37
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.21
Intersection Signal Delay: 6.5 Intersection LOS: A
Intersection Capacity Utilization 38.3% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Pletcher Road & Route 18 (Creek Road)



Lanes, Volumes, Timings
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	68	11	81	54	10	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1218	0	1437	0	0	1741
Flt Permitted	0.959					0.994
Satd. Flow (perm)	1218	0	1437	0	0	1741
Link Speed (mph)	45		45			45
Link Distance (ft)	1130		1008			957
Travel Time (s)	17.1		15.3			14.5
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	50%	27%	1%	61%	40%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	0	147	0	0	88
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.3% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	68	11	81	54	10	71
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	12	88	59	11	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	216	117			147	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	216	117			147	
tC, single (s)	6.9	6.5			4.5	
tC, 2 stage (s)						
tF (s)	4.0	3.5			2.6	
p0 queue free %	89	99			99	
cM capacity (veh/h)	670	871			1233	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	86	147	88
Volume Left	74	0	11
Volume Right	12	59	0
cSH	693	1700	1233
Volume to Capacity	0.12	0.09	0.01
Queue Length 95th (ft)	11	0	1
Control Delay (s)	10.9	0.0	1.0
Lane LOS	B		A
Approach Delay (s)	10.9	0.0	1.0
Approach LOS	B		

Intersection Summary				
Average Delay		3.2		
Intersection Capacity Utilization		23.3%	ICU Level of Service	A
Analysis Period (min)		15		

Lanes, Volumes, Timings
12: Balmer Road & Site Driveway

11/16/2011

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	23	37	4	27	39	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		615	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)		25	25		25	25
Satd. Flow (prot)	1743	828	0	1830	967	0
Flt Permitted				0.994	0.954	
Satd. Flow (perm)	1743	828	0	1830	967	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	765			745	383	
Travel Time (s)	9.5			9.2	8.7	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	9%	95%	25%	0%	90%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	29	46	0	39	51	0
Sign Control	Free			Free	Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 14.8% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
12: Balmer Road & Site Driveway

11/16/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	23	37	4	27	39	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	29	46	5	34	49	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			75		72	29
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			75		72	29
tC, single (s)			4.3		7.3	6.2
tC, 2 stage (s)						
tF (s)			2.4		4.3	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1390		750	1052

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	29	46	39	51
Volume Left	0	0	5	49
Volume Right	0	46	0	2
cSH	1700	1700	1390	761
Volume to Capacity	0.02	0.03	0.00	0.07
Queue Length 95th (ft)	0	0	0	5
Control Delay (s)	0.0	0.0	1.0	10.1
Lane LOS			A	B
Approach Delay (s)	0.0		1.0	10.1
Approach LOS				B

Intersection Summary				
Average Delay			3.4	
Intersection Capacity Utilization			14.8%	ICU Level of Service A
Analysis Period (min)			15	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

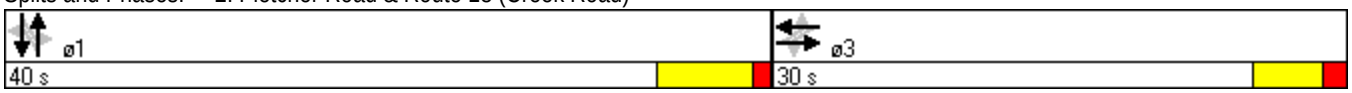
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	16	32	8	10	15	43	232	10	17	175	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	1767	0	0	1765	0	0	1710	0	0	1666	0
Flt Permitted		0.789			0.889			0.912			0.966	
Satd. Flow (perm)	0	1437	0	0	1588	0	0	1571	0	0	1614	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			16			4			38	
Link Speed (mph)		45			35			45			45	
Link Distance (ft)		1093			650			819			796	
Travel Time (s)		16.6			12.7			12.4			12.1	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	0%	0%	3%	0%	0%	0%	0%	12%	0%	0%	14%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	0	0	36	0	0	313	0	0	291	0
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		3			3			1			1	
Permitted Phases	3			3			1			1		
Detector Phase	3	3		3	3		1	1		1	1	
Switch Phase												
Minimum Initial (s)	8.0	8.0		8.0	8.0		25.0	25.0		25.0	25.0	
Minimum Split (s)	13.0	13.0		13.0	13.0		31.0	31.0		31.0	31.0	
Total Split (s)	30.0	30.0	0.0	30.0	30.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%
Yellow Time (s)	3.6	3.6		3.6	3.6		5.0	5.0		5.0	5.0	
All-Red Time (s)	1.4	1.4		1.4	1.4		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)		13.6			13.6			24.9			24.9	
Actuated g/C Ratio		0.34			0.34			0.63			0.63	
v/c Ratio		0.27			0.06			0.32			0.28	
Control Delay		14.5			10.5			7.5			6.4	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		14.5			10.5			7.5			6.4	
LOS		B			B			A			A	
Approach Delay		14.5			10.5			7.5			6.4	
Approach LOS		B			B			A			A	
Queue Length 50th (ft)		26			4			39			31	
Queue Length 95th (ft)		64			21			98			80	
Internal Link Dist (ft)		1013			570			739			716	
Turn Bay Length (ft)												
Base Capacity (vph)		910			1001			1226			1267	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.15			0.04			0.26			0.23	

Lanes, Volumes, Timings
2: Pletcher Road & Route 18 (Creek Road)

11/16/2011

Intersection Summary
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 39.6
Natural Cycle: 45
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.32
Intersection Signal Delay: 8.5 Intersection LOS: A
Intersection Capacity Utilization 49.6% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 2: Pletcher Road & Route 18 (Creek Road)



Lanes, Volumes, Timings
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	62	14	150	73	13	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1341	0	1644	0	0	1810
Flt Permitted	0.961					0.994
Satd. Flow (perm)	1341	0	1644	0	0	1810
Link Speed (mph)	45		45			45
Link Distance (ft)	1130		1008			957
Travel Time (s)	17.1		15.3			14.5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	37%	14%	0%	32%	23%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	0	253	0	0	134
Sign Control	Stop		Free			Free

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.4% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
8: Balmer Road & Route 18 (Creek Road)

11/16/2011

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	62	14	150	73	13	105
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Hourly flow rate (vph)	70	16	170	83	15	119
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	361	212			253	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	361	212			253	
tC, single (s)	6.8	6.3			4.3	
tC, 2 stage (s)						
tF (s)	3.8	3.4			2.4	
p0 queue free %	88	98			99	
cM capacity (veh/h)	567	799			1199	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	86	253	134
Volume Left	70	0	15
Volume Right	16	83	0
cSH	599	1700	1199
Volume to Capacity	0.14	0.15	0.01
Queue Length 95th (ft)	13	0	1
Control Delay (s)	12.0	0.0	1.0
Lane LOS	B		A
Approach Delay (s)	12.0	0.0	1.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.5		
Intersection Capacity Utilization		27.4%	ICU Level of Service	A
Analysis Period (min)		15		

Lanes, Volumes, Timings
12: Balmer Road & Site Driveway

11/16/2011

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	37	26	0	36	30	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		615	0		0	0
Storage Lanes		1	0		1	0
Taper Length (ft)		25	25		25	25
Satd. Flow (prot)	1900	824	0	1900	1070	0
Flt Permitted					0.962	
Satd. Flow (perm)	1900	824	0	1900	1070	0
Link Speed (mph)	55			55	30	
Link Distance (ft)	765			745	383	
Travel Time (s)	9.5			9.2	8.7	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	96%	0%	0%	83%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	44	31	0	42	44	0
Sign Control	Free			Free	Stop	

Intersection Summary
Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 13.3% ICU Level of Service A
Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis
12: Balmer Road & Site Driveway

11/16/2011

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	37	26	0	36	30	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	44	31	0	42	35	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			74		86	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			74		86	44
tC, single (s)			4.1		7.2	6.2
tC, 2 stage (s)						
tF (s)			2.2		4.2	3.3
p0 queue free %			100		95	99
cM capacity (veh/h)			1538		750	1032

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	44	31	42	45
Volume Left	0	0	0	35
Volume Right	0	31	0	9
cSH	1700	1700	1538	796
Volume to Capacity	0.03	0.02	0.00	0.06
Queue Length 95th (ft)	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	9.8
Lane LOS				A
Approach Delay (s)	0.0		0.0	9.8
Approach LOS				A

Intersection Summary				
Average Delay			2.7	
Intersection Capacity Utilization			13.3%	ICU Level of Service A
Analysis Period (min)			15	

ARCADIS

Appendix L

CAC Agreements

CAC AGREEMENT

RMU-1

September 23, 1997

Waste Management, Inc.
CWM Chemical Services, Inc.
Town of Lewiston, New York
Town of Porter, New York
County of Niagara, New York
Residents Organized for Lewiston-Porter's Environment, Inc.
Community Advisory Committee, RMU-1

CAC AGREEMENT

This Agreement ("Agreement") is made as of the 21st day of July, 1993, between Waste Management, Inc. ("WMI") and CWM Chemical Services, Inc. ("CWM"), the Town of Lewiston ("Lewiston"), the Town of Porter ("Porter"), the County of Niagara ("Niagara"), the Community Advisory Committee for RMU-1 ("CAC"), and the Residents Organized for Lewiston-Porter's Environment, Inc. ("ROLE") relating to CWM's applications for permits to construct and operate and a certificate of environmental safety and public necessity for a proposed hazardous and industrial waste landfill to be known as Residuals Management Unit - 1 ("RMU-1") and CWM's proposal for a commercial hazardous waste incineration system at the Model City Facility.

WHEREAS, CWM owns and operates a commercial hazardous waste treatment, storage, and disposal facility at 1550 Balmer Road in the Towns of Porter and Lewiston, Niagara County, New York, known as the Model City Facility ("Facility"); and

WHEREAS, WMI owns 100% of the issued and outstanding stock of CWM; and

WHEREAS, Lewiston is a duly constituted municipal corporation under the New York Town Law; and

WHEREAS, Porter is a duly constituted municipal corporation under the New York Town Law; and

WHEREAS, Niagara is a duly constituted municipal corporation under the New York County Law; and

WHEREAS, ROLE is a New York not-for-profit corporation with its office and principal place of business in Lewiston, New York; and

WHEREAS, CWM has duly filed applications for the necessary permits, certificate and approvals to construct and operate proposed RMU-1 at its Model City, New York Facility; and

WHEREAS, pursuant to ECL 27-1113, the CAC was duly constituted to consist of R. Nils Olsen, James McIntyre, James Ibaugh, and William Suitor for Porter; Dr. Thomas Hughes, James Jackson, Peter Ohanessian, and Ralph Race, Jr. for Lewiston; and Margaret Guiliani, Darlyne O'Callaghan, Pat Brown, and Paul Dickey for Niagara; and

WHEREAS, CWM and the CAC, acting on behalf of Lewiston, Porter, Niagara, and ROLE have held meetings on at least five occasions since March 2, 1993, and

WHEREAS, the CAC has solicited comments from representatives of the Lewiston-Porter School District Administration and School Board and has acted on behalf of the Lewiston-Porter School District ("the District") is presenting, discussing and resolving the concerns of the District; and

WHEREAS, CWM and the CAC have identified and discussed a number of community issues, questions and concerns related to CWM's current and proposed future operations at the Facility, as well as specifically related to the proposed

construction and operation of RMU-1, proposed changes in the Facility's operating hours and in the scheduling of hazardous waste transportation vehicles in and out of the Facility, and CWM's commercial hazardous waste incinerator proposal for the Facility, some of which were addressed by an exchange of information and some of which were the subject of extensive discussions and negotiations between CWM and the CAC resulting in this Agreement; and

WHEREAS, the CAC identified the following issues (collectively the "CAC Issues") requiring discussion and/or resolution to address the concerns of Lewiston, Porter, Niagara, the Lewiston-Porter School District and ROLE:

(1) The status of CWM's proposal to develop a commercial hazardous waste incineration system at the Facility;

(2) The status of CWM's efforts to evaluate and implement computer modeling programs to predict potential receptor corridors in the event of a catastrophic air release;

(3) The need for CWM, the County of Niagara, and others to form a Task Force to explore and develop a plan for a feasible long term alternative haul route(s) for hazardous waste shipments entering and exiting the County in order to utilize the Model City Facility;

(4) The need to consider immediate alternative routes for a significant portion of hazardous waste truck traffic so that it would not pass the Lewiston-Porter Consolidated School campus;

(5) A proposal for the elimination of hazardous waste transport traffic on New York Route 18 during peak school bus arrival and departure periods at the Lewiston-Porter Consolidated School campus;

(6) A discussion and identification of all potential hazardous waste receipts at the Model City Facility which could pose potential health and safety threats to students and staff of the Lewiston-Porter Consolidated School District if accidentally released near the campus, and consideration of a proposal for vehicles hauling such waste to be rerouted through the least populated acceptable transportation route which does not pass by a school or scheduled so as to avoid school hours;

(7) Discussion of the need for an appropriate health study of populations potentially at risk from the activities associated with RMU-1;

(8) A proposal for CWM to agree to fund, publicize and conduct Niagara County household hazardous waste collection and disposal programs during the entire active life of RMU-1 (i.e., a continuation of the program currently proposed by CWM in compliance with an EPA consent order after satisfaction of the consent order obligations);

(9) A discussion of the need to fund a tree planting program, to be coordinated by the Niagara County Parks Department, to replace woodland lost by the proposed RMU-1 project;

(10) A discussion of the need for CWM to increase the number and locations of real-time air monitoring devices at the Facility perimeter and various critical sites outside the facility;

(11) A proposal for CWM to report violations of applicable regulations and law by transporters to the Niagara County District Attorney's Office;

(12) A proposal for CWM to increase the effectiveness of the disciplinary/enforcement procedures in the current CWM Transporter Rules;

(13) The need for CWM to provide appropriate perpetual care assurances after the closing of RMU-1 and for each solid waste management unit at the Model City Facility;

(14) A discussion of CWM's PCB management program regarding all PCB materials buried, treated, generated, accumulated, and stored on site at the Model City Facility;

(15) A proposal that CWM fully assess potential worst case risks to the Lewiston-Porter Consolidated School campus from current activities at the Model City Facility and the proposed construction and operation of the RMU-1 landfill;

(16) A proposal for creation and publication of a telephone hot line number for community-based complaints concerning traffic and associated activities at the Model City Facility;

(17) A proposal that CWM participate with representatives of Lewiston, Porter and Niagara County in a quarterly review of complaints, problems, etc. concerning the Model City Facility;

(18) A proposal that CWM provide acceptable, advance notice to Porter, Lewiston, Niagara and the District and, through the Niagara Gazette and Sentinel, to the local populace of any unusual traffic or associated activities at the Model City Facility;

(19) A discussion of the projected annual capacity at RMU-1 and associated traffic increases compared to the current situation;

(20) A proposal to curtail traffic during late evening hours in the event CWM seeks twenty-four hour per day operations at RMU-1; and

(21) A discussion of a possible host community fee to be paid to Niagara; and

WHEREAS, CWM, the CAC, Porter, Lewiston, Niagara, and ROLE desire to provide for the resolution of the CAC issues in accordance with the terms and conditions of this Agreement; and

WHEREAS, CWM, the CAC, Porter, Lewiston, Niagara, and ROLE recognize the importance of continuity of the agreements and covenants made herein; agree and acknowledge that this Agreement is a proprietary contract entered into by the parties; and expressly acknowledge that the Agreement is binding upon each of the parties for its entire term.

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth and intending to be legally bound thereby, the parties hereto agree as follows:

1. Definitions

For the purpose of this Agreement, the following definitions shall apply unless otherwise indicated:

a. "CWM" shall mean CWM Chemical Services, Inc., any direct or indirect subsidiary, and any successors and assigns or any joint venture or partnership which includes CWM.

b. "WMI" shall mean Waste Management of New York, Inc., any direct or indirect subsidiary, and any successors and assigns or any joint venture or partnership which includes WMI.

c. "Hazardous Waste" shall mean any substance meeting the definition of hazardous waste in the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 et seq., 40 CFR Part 261, N.Y. ECL Art. 27, Title 9, or 6 NYCRR Part 371.

d. "Hazardous waste incinerator" shall mean any device that meets the definitions of "incinerator", "boiler" or "industrial furnace" as set forth in 6 NYCRR Section 370.2(b).

e. "Commercial hazardous waste incinerator" shall have the meaning set forth in 6 NYCRR Section 370.2(b)(25) for "commercial hazardous waste facilities" as applied to the definition of "hazardous waste incinerator" set forth in subparagraph d. supra, except that a "commercial hazardous waste incinerator" shall also include a hazardous waste incinerator which accepts any off-site waste for incineration, including waste from any facility from the same trust, firm,

joint-stock company, or corporation, and except that a "commercial hazardous waste incinerator" also includes an incinerator that incinerates hazardous waste initially generated on-site resulting from recycling of characteristic hazardous waste initially generated on-site resulting from recycling of characteristic hazardous wastes or the reclamation of precious metals (but not including corrective action wastes).

2. Commercial Incinerator

Subject to the terms and conditions set forth in paragraphs 5 and 8 infra, CWM and WMI agree that at no time prior to July 21, 2008 will either or both submit an application for a permit or siting certificate to construct or operate a commercial hazardous waste incinerator at the Facility or at any other location partly or wholly within Niagara County, New York.

3. Corrective Action Incinerator

This Agreement shall not prevent CWM from applying for or proposing to construct and operate a hazardous waste incinerator for the Facility solely for the purpose of conducting corrective action for the Facility, if required to do so by the New York State Department of Environmental Conservation and/or the United States Environmental Protection Agency in a final Corrective Measures Implementation or otherwise. The provisions of paragraph 2 hereof shall apply with regard to any attempt to permit any such hazardous waste incinerator for commercial use, as defined above in paragraph 1(e), at the Model City Facility or any other site in Niagara County. In the event the provisions of paragraph 2 hereof are no longer in effect, CWM agrees that any attempt to commercialize the operation of any such

hazardous waste incinerator shall be subject to all applicable siting and permitting requirements for a commercial hazardous waste incinerator.

4. Resolution of CAC Issues

Subject to the terms and conditions set forth in Paragraph 5 and 8 infra, the remaining CAC Issues identified supra by the CAC on behalf of Porter, Lewiston, Niagara, the District and ROLE are resolved as follows:

a. Subject to acceptance by the Niagara County Local Emergency Planning Committee, CWM will equip the emergency response vehicle to be donated to Niagara County (as provided in the consent order between CWM and EPA) with a cellular telephone and lap-top computer, portable printer and FAX. CWM will give it's version of CHARM software to Niagara County for use in the emergency response vehicle. Subject to the acceptance by the Niagara County Health Department, CWM will purchase EIS software and provide training for designated emergency response personnel. In addition, CWM will provide EIS and CHARM software to the Town of Lewiston Emergency Response Unit or Environmental Office and will provide appropriate training of designated emergency response personnel.

b. Representatives of CWM and Niagara will establish a Task Force, including representatives of other appropriate agencies and boards, charged with the development of feasible long-term alternatives to the currently designated haul route for hazardous wastes being shipped to the Model City Facility. It is the intent of the parties that a feasible long-term alternative, acceptable to all of the

parties, be developed and implemented through this process. It is also recognized that any such undertaking will require the cooperation and participation of all parties to this Agreement. Because the Model City Facility serves the hazardous waste disposal needs of all of New York State as well as a number of other states in the Northeast United States, the parties to this Agreement believe that State and/or federal funding should be made available to assist in the work of the Task Force, including in particular funding the right of way acquisition and roadway construction.

c. CWM will accept a perpetual care condition in the RMU-1 permit, provided that condition is consistent with the perpetual care condition in the SLF-12 permit.

d. CWM will establish a telephone hotline number for community complaints concerning traffic and associated activities at the Model City Facility. This condition shall remain in effect until July 21, 2008.

e. CWM will participate in a quarterly (or as needed) review of complaints, problems and concerns related to the Model City Facility with designated representatives of Porter, Lewiston, Niagara, the District and ROLE. As resolution of CAC issues are addressed, and all designated representatives agree, this quarterly frequency may be reduced.

f. CWM will provide advance notice to Porter, Lewiston, Niagara and the District concerning any expected unusual traffic activities at the Model City Facility.

g. CWM will implement and adhere to the "Site Operations Plan" annexed hereto as Appendix 1. All parties reserve the right by mutual agreement to make modifications to the Site Operations Plan. This condition shall remain in effect until July 21, 2008.

h. CWM will establish and maintain a direct telephone line between the Model City Facility and the Lewiston-Porter Central School District Administration. This condition shall remain in effect until July 21, 2008.

i. CWM will participate jointly with the Lewiston-Porter School District Administration in a study of the air intake system and any related issues to ensure that the District can effectively and promptly respond to the worst case scenarios identified in the RMU-1 DEIS, and CWM will participate with the District in revising the emergency evacuation plans of the School District to address potential worst case incidents at the Model City Facility or in the transportation of hazardous waste on New York Route 18 past the school campus.

j. CWM will establish a schedule for reporting to the Towns of Lewiston and Porter and the Lewiston-Porter School District on an approximate quarterly basis the estimated gross receipts for local gross receipts tax purposes and CWM will inform the Towns and School District if an event occurs which CWM believes would have a significant adverse effect on future gross receipts.

k. Following completion of the household hazardous waste collection and disposal program in Niagara County in fulfillment of the provisions of the pertinent EPA consent order, CWM will consult with representatives of the

Towns and Niagara County regarding the feasibility of continuing that program for the remaining term of this Agreement through the mutual efforts of CWM and the Towns and County.

l. CWM agrees to provide a $5,000 contribution to Niagara County to support local beautification efforts.

m. CWM agrees to report all violations of applicable transportation regulations and law annually to the Niagara County District Attorney and the Town of Lewiston Police Department.

n. To the event not funded by the New York State Department of Environmental Conservation, CWM will contribute up to the sum of $10,000 per year to the Niagara County Health Department to support County oversight of the Model City Facility.

Based upon the foregoing, Lewiston, Porter, Niagara and ROLE agree, for the entire term of this agreement subject to the terms and conditions of Paragraphs 5 and 8 infra, to accept the foregoing as the resolution of all CAC Issues, identified and described supra, as they relate to RMU-1 or any future applications submitted by CWM during the term hereof, including the "Airspace Enhancement Project" agree to abide by the above terms and conditions, agree not to seek party status in the RMU-1 permit proceeding, including the RMU-1 Airspace Enhancement Project, and agree not to oppose issuance of the permits and certificate necessary to construct and operate RMU-1. Further, Lewiston, Porter, Niagara and ROLE agree promptly to seek leave

of the Court to formally withdraw as parties in the proceedings of CWM v.Jorling Civ. 90-128SA, currently pending in the U.S. District Court for the Western District of New York.

5. Terms of the Agreement

Except as provided in Paragraphs 5 and 6 hereof, this Agreement shall remain in full force and effect for a period of ten years from the effective date hereof. In the event any party believes that any other party has violated any of the terms and conditions of this Agreement, the sole remedy available to such party is to invoke the Dispute Resolution provisions in Paragraph 8 hereof. If, as a result of any litigation initiated in accordance with the procedures in Paragraph 8 hereof, there is final judicial determination that this Agreement is not enforceable or is otherwise invalid, then any party may notify the other parties in accordance with Paragraph 7 hereof its election to terminate this Agreement as to all parties. In addition, any party may terminate this Agreement if CWM's applications to construct and operate RMU-1 are not granted. In either event, this Agreement shall terminate as of the date of such notice. Otherwise, this Agreement shall terminate at the end of ten years from its effective date unless extended by a writing signed by all parties hereto. The term of the Agreement is modified for the items included above (Items 2, 4.d., 4.g., 4.h.) to be in effect until July 21, 2008. The remaining conditions of the Agreement shall terminate at the end of the original ten year term.

6. Effective Date

This Agreement shall become effective upon execution by all parties.

7. Notice

Any notice required by this Agreement to be given in writing shall be sent by first class mail postage prepaid, overnight mail, or by Fax to the following designated representatives of the parties:

a) CWM:

Mr. Michael P. McInerney
CWM Chemical Services, Inc.
1550 Balmer Road
Model City, New York 14107
Fax (716) 754-0211

and

Daniel M. Darragh, Esq.
Buchanan Ingersoll
One Oxford Centre
301 Grant Street - 20th Floor
Pittsburg, PA 15219-1410
Fax (412) 562-1041

b) Lewiston:

Supervisor Thomas Sharp
Town of Lewiston
Lewiston Town Hall
1375 Ridge Road
Lewiston, New York 14092
Fax (716) 754-2821

and

Edward P. Jesella, Esq.
Lewiston Town Attorney
411 Center Street
Lewiston, New York 14092
Fax (716) 754-4300

c) Porter:

Supervisor Thomas Beachy

Town of Porter
Porter Town Hall
3265 Creek Road
Youngstown, New York 14174
Fax (716) 745-9022

and

George Orr, Esq.
800 Main Street, P.O. Box 248
Niagara Falls, New York 14302
Fax (716) 284-5843

d) Niagara: Mr. Sean J. O'Connor
Chairman, Niagara County Legislature
P.O. Box 527
Lewiston, New York 14092
Fax (716) 754-9210

and

Michael J. Fitzgerald, Esq.
131 East Avenue
Lockport, New York 14094
Fax (716) 439-5941

e) ROLE: Timothy Henderson
President, R.O.L.E.
P.O. Box 44
Lewiston, New York 14092

and

Nils Olsen, Jr.
SUNY Buffalo School of Law
Legal Assistance Program
507 O'Brian Hall
Buffalo, New York 14260
Fax (716) 645-2900

8. Dispute Resolution

In the event of a disagreement between CWM on the one hand and Porter, Lewiston, Niagara or ROLE on the other, any party may invoke the procedures set forth in this paragraph by giving written notice thereof to all other parties as provided in paragraph 7 hereof, specifying the nature of the disagreement. Within fifteen days of receipt of such notice, the parties interested in participating in the dispute resolution shall meet for the purpose of attempting to arrive at an informal resolution of the disagreement to the satisfaction of all participating parties. If after forty-five days from receipt of the written notice, the disagreement has not been informally resolved, any aggrieved party may apply to the Supreme Court, Niagara County to obtain an order requiring compliance with the terms of this Agreement. In any such proceeding, all parties acknowledge that there is no adequate remedy at law and that the sole remedy available shall be injunctive relief requiring compliance with the terms of this Agreement.

9. Use of This Agreement

This Agreement may be submitted to the Administrative Law Judge designated to conduct the joint permitting/Siting Board hearing for RMU-1. The parties recognize that the Commissioner of the Department of Environmental Conservation and/or the New York Hazardous Waste Facility Siting Board may include conditions in the RMU-1 permit or siting certificate which may be similar or related to but not identical with the terms of this Agreement. Notwithstanding any such action by the Commissioner or the Hazardous Waste Facility Siting Board, all the terms of this Agreement shall remain in effect and be binding on the parties

hereto and shall be enforceable for the term defined in Paragraph 5 hereof. In the event there is a disagreement over compliance with the terms of this Agreement while the Agreement is in effect, such disagreement shall be resolved in accordance with the dispute resolution procedure contained in Paragraph 8 hereof.

10. Binding upon Successors and Assigns

It is in the intent of the parties that this Agreement be binding upon each of their successors and assigns, and, in the case of CWM, shall be binding upon any successor or operator of the Facility, or any part thereof, including any transfer or conveyance in connection with any bankruptcy or insolvency proceeding. CWM agrees to give notice of this Agreement to any prospective purchaser or successor of the Facility. At least 60 days prior to any conveyance of the Facility to a new owner or the designation of a new operator, CWM will provide written notice thereof to all other parties as provided in Paragraph 7 hereof. As a condition to any such transaction, CWM shall obtain a written acknowledgment from the proposed new owner or operator of its obligation to abide by this Agreement for its then remaining term and will provide a copy of that acknowledgment to Porter, Lewiston, Niagara and ROLE.

11. Reservation of Rights

Nothing contained in this Agreement shall in any fashion limit or compromise the rights of Lewiston, Porter, Niagara, and/or ROLE to oppose any application by CWM to construct and operate a hazardous waste incineration for the exclusive purpose of conducting corrective action at the Facility as discussed in

paragraph 3 supra, nor shall anything in this Agreement limit or compromise in any fashion the rights of Lewiston, Porter, Niagara, and/or ROLE to oppose any application by CWM to construct and operate a commercial hazardous waste incinerator in the event the provisions of paragraph 2 supra are no longer in effect.

12. Governing Law

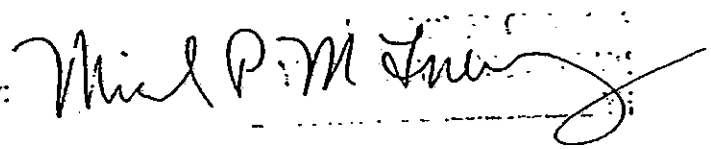
This Agreement shall be governed and interpreted in accordance with the laws of the State of New York.

13. Execution of this Agreement

This Agreement may be executed in multiple counterparts and all such counterparts shall be treated as one Agreement. Each person executing this Agreement represents that he/she has been duly authorized to execute this Agreement on behalf of the party designated.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the day and year first written above.

CWM Chemical Services, Inc.

By: 

Name: Michael McInerney
Title: Division President

CAC Agreement

September 23, 1997

We, the undersigned, agree to the terms of this Agreement.

Town of Lewiston

By: Thomas E. Sharp 11/24/97
Thomas E. Sharp
Supervisor, Town of Lewiston

Town of Porter

By: Thomas Beachy 10/7/97
Thomas Beachy
Supervisor, Town of Porter

County of Niagara

By: Sean J. O'Connor 12/17/97
Sean J. O'Connor
Chairman, Niagara County Legislature

Residents Organized for Lewiston-Porter's Environment, Inc. and Community Advisory Committee

By: R. Nils Olsen, Jr. 11/18/97
R. Nils Olsen, Jr.
R.O.L.E. and CAC Representative

APPROVED AS TO FORM
NIAGARA COUNTY ATTORNEY
BY
Res # HS-115-97

Appendix 1

CWM Chemical Services, Inc.
Model City, New York

SITE OPERATIONS PLAN

As a result of a number of changes in regulatory requirements, market place dynamics, including generator efforts at waste minimization and product substitution, and other factors, the nature of the business at the Model City Facility is almost constantly changing. In the last several years, CWM has made substantial investments in upgrading and expanding its hazardous waste treatment and processing facilities. In order to effectively and efficiently utilize these new and expanded facilities, more flexible operating/transportation hours are required.

Processing operations, particularly involving stabilization, are expected to be a growing part of the Model City base business. For example, CWM expects to receive and treat certain types of characteristic hazardous wastes. That treatment will result in the decharacterization of the waste stream, which can then be disposed of as solid waste in a subtitle D landfill. In that event, after treatment, the generator can elect to have the decharacterized waste shipped to a solid waste landfill facility. As used in this agreement the word "truck" shall mean a motor vehicle transporting hazardous materials as defined and regulated by 49 CFR, Chapter 1, Subchapter C.

The Model City Facility currently operates the following processes:

1. Secure land disposal;
2. Stabilization;
3. Fuels blending;
4. Aqueous waste treatment;
5. Tank storage; and
6. Container management.

Except for operations in the active landfill cell, the other site processes have historically operated on a 24-hour per day, 7-day per week basis. In order to more effectively utilize these processes, better coordinate site related activities, and address community related issues, particularly related to the volume and density of truck traffic in the Towns of Lewiston and Porter, it is essential that the Site Operations Plan be revised to provide for a controlled extension of landfill and gate receipt operations to 24 hours per day, 6 days per week (except where special circumstances require Sunday operations), as follows:

(All trucks carrying waste to CWM will comply with these rules, used to be hazardous trucks and now includes hazardous and non-hazardous trucks.)

1. Non-CWM owned trucks carrying wastes or similar hazardous materials (e.g., acid used as a reagent in the AWT) will be scheduled for arrival or departure during the hours of 5:00 a.m. and 10:00 p.m., six days per week, except as noted below. CWM owned trucks will continue to be authorized to arrive and depart 24 hours per day. If non-CWM owned trucks carrying waste are within the boundaries of the Towns of Lewiston or Porter and are prevented from reaching the facility by 10:00 p.m. as a result of mechanical malfunction or otherwise, the trucks shall be permitted to enter the facility upon arrival. CWM will report monthly to the Towns and County the number of late arrivals and the reasons therefore.

2. All trucks transporting, in bulk, blended fuels, PCB contaminated oils, or liquid or solid materials which present a risk of vapor release or fuming will be scheduled to arrive or depart the facility between 5:00 a.m. and 7:00 a.m. or between 4:00 p.m. and 9:00 p.m. on days when the Lewiston-Porter School complex is in session. CWM will obtain a copy of the Lew-Port School "event" calendar and attempt to schedule shipments of the aforesaid materials so as to avoid events that are expected to be heavily attended.

3. No trucks carrying waste will be scheduled for arrival or departure between 7:30 a.m. and 9:00 a.m. or between 2:15 p.m. and 3:45 p.m. on days when the Lewiston-Porter School complex is in session.

4. No more than 35 waste trucks per hour will be scheduled for arrival or departure during the hours of 6:00 a.m. to 12:00 p.m. No more than 25 waste trucks per hour will be scheduled for arrival or departure during the hours of 5:00 a.m. to 6:00 a.m. and 12:00 p.m. to 10:00 p.m., with the exceptions noted above.

5. Not more than 220 waste trucks will be scheduled for arrival during any 24-hour period, except for unusual circumstances, in which event no more than 250 waste trucks will be scheduled for arrival during any 24 hour period. Notice of any such unusual circumstances will be provided to the Towns, the County, and the Lewiston Porter School District.

6. Except in the event of an emergency situation, no more than 45 CWM owned waste trucks will be scheduled to arrive or depart between the hours of 10:00 p.m. and 5:00 a.m. In the event of an emergency, any additional scheduling between 10:00 p.m. and 5:00 a.m. will be subject to DEC approval with notice to the Towns and the County.

7. These resolutions do not apply to trucks delivering supplies and materials (e.g., cement, diesel fuel, propane, etc.).

8. Trucks carrying wastes to the facility and arriving via I-190 shall use the existing designated route. Trucks carrying wastes to the facility arriving from the eastern part of Niagara County shall use available state highways to Balmer Road. CWM will designate an alternative inbound route for trucks arriving via I-190 if

adequate traffic safety devices (signals) are installed at the cloverleaf off ramp left had turn onto Rt. 104 East.

9. Trucks carrying wastes from the facility shall use the designated route.

10. No more than 8 empty waste trucks per hour leaving the facility eastbound shall be scheduled to use existing state highways to the East. Empty trucks leaving the facility southbound or westbound shall use the designated inbound route.

11. CWM, jointly with Lewiston, Porter, Niagara, the Board and/or ROLE, will pursue the possibility of using CWM's transportation facility in Tonawanda, NY as a staging area for inbound waste trucks using I-190, including non-CWM trucks, without the need to obtain any type of hazardous waste management facility permit or siting certificate.

The landfill will operate 24-hours per day, 6-days per week, except where special permission is obtained from DEC to operate on Sunday.

CWM CHEMICAL SERVICES, LLC.
MODEL CITY FACILITY
TRANSPORTER RULES AND REGULATIONS

As the acknowledged leader in the hazardous waste industry, our responsibility is to establish very high hazardous waste management standards.

These standards provide maximum protection to our customers, employees, regulators, and the community.

A key component of our business is the transportation of wastes to our facility. Safe transport is as important as safe storage, treatment, destruction or disposal. Hence, we have developed very stringent transporter requirements to ensure the safety of our employees, our neighbors, and people in the communities in which we do business. Our concern for safety demands that we rigidly enforce these rules and regulations.

Therefore, we require that EVERY driver adhere to all Local, State and Federal laws, and our CWM Model City rules and regulations. Please review the attached Transporter Rules and Regulations. It is required that all transporters sign the acknowledgement page and that all drivers transporting to CWM Model City keep a copy of these rules and regulations in their vehicle.

Michael Mahar
District Manager
CWM Chemical Services, LLC.

Revised 1/15/07

Regulatory and CWM, Model City compliance:

All transporters will comply with all Federal DOT requirements as found in 49CFR; NYS DEC requirements as found in 6NYCRR Parts 364 and 373; and NYS DOT requirements as found in Parts 390-396 of the Federal Motor Carriers Safety Regulations. All transporters will also comply with this document, the Model City Transporter Rules and Regulations (Transporter Rules), which is referenced in our permit to operate. The Transporter Rules include restrictions included in the Community Advisory Committee (CAC) Agreement.

Scheduling:

- All trucks will be scheduled for arrival on site during operating hours. Drivers should arrive within 15 minutes on either side of their **scheduled appointment time**. If for any reason you cannot make your appointment, please contact the transportation department at 1-800-843-3604

- Trucks carrying waste will be scheduled for arrival prior to 7:15 am or after 9:15 am on the days when the Lewiston-Porter School is in session. CWM has agreed to a "black out" period for scheduled arrivals between 7:30 a.m. and 9:00 a.m. and 2:15 p.m. and 3:45 p.m. on school days. Trucks arriving during the "black out periods" mentioned above will be subjected to an offense*.

- Trucks carrying wastes or similar hazardous materials will be scheduled for arrival or departure during the hours of 5:00 a.m. and 10:00 p.m. Trucks must not enter the Towns of Lewiston or Porter other than during normal operating hours (5 a.m.-10 p.m.). Trucks arriving outside of normal business hours will be subjected to an offense*.

- All trucks transporting, in bulk, blended fuels, PCB contaminated oils, or liquid or solid materials, which present a risk of, vapor release or fuming will be scheduled to arrive or depart the facility between 5:00 - 7:00 a.m. or between 4:00 - 9:00 p.m. on the days when the Lewiston-Porter School is in session.

**See Violations and Penalties section on the next page.*

Designated Route:

State/Federal highways only when entering Niagara County to Rte. 104 or
NYS Thruway (I-190) north to Rte. 265 (north) to Rte. 104 then:

1. Route 104 to Route 18
2. North on Route 18 approximately 5 miles to Balmer Road
3. Right (east) on Balmer Road
4. Proceed 3 miles to Guardhouse at truck/plant entrance

The reverse should be followed when leaving the facility. All waste haulers MUST use this route unless the CWM guard directs the driver north on Route 18 to Route 93 east during school "black out" hours for empty loads only.

NO STOPPING OR STANDING along the designated route.

* Absolutely **NO DEVIATION** from the designated route. Trucks are not to be on any roadway other than State/Federal highways when in Niagara County (with the exception of Balmer Road).

* **NO CONVOYS** in the Towns of Lewiston or Porter (keep trucks 1/4 mile apart) to the extent possible.

Inspection upon arrival

In accordance with CWM's Operating Permit, the Waste Transporter Permit and the transportation vehicle will be inspected and if any of the following are identified, the Department of Environmental Conservation (DEC) will be notified and the agency may pursue enforcement:

- No Waste Transporter Permit, expired permit or discrepancies in permit
- Leaking vehicle

Violations and Penalties

If any of the following violations are noted/reported, barring the most extenuating circumstances, it will be considered an offense and will be subject to the CWM enforcement program outlined below:

- Arrival during black out hours (7:30-9:00 a.m. and 2:15-3:45 p.m.) on school days
- Entering the Towns of Lewiston or Porter other than during normal operating hours (5 am- 10 pm)
- Traveling off the designated route
- Parking or standing on the designated route
- Convoying in the Towns of Lewiston or Porter

A first offense will subject the driver and hauling contractor to a warning. In addition, the driver and transporter will be requested to attend a transporter training class presented by CWM.

A second offense by the same driver within 3 months will subject the driver to a one-month ban from the site. In addition, before the driver can return to the site, he/she will be required to have attended and completed a transporter training class presented by CWM.

If a transporter has three or more offenses in a 3-month period (including single offenses by three separate drivers), a designated management representative from the transporter will be required to attend and complete the transporter training class. In addition, a loss of business penalty will be imposed. The transporter will be banned from the site for the equivalent of four weeks, which must be completed within six months from the date of the third violation.

CWM reserves the right to take further action other than that listed above, if, in CWM's judgement, further action is warranted.

On-Site:

Leaking vehicles will be addressed or corrected upon arrival at the expense of the transporter. Leaking loads that do not conform to the waste profile will be required to stop the leak before the vehicle leaves the facility.

Overweight vehicles may require special safety attention that may delay servicing loads and may result in special charges to the transporter.

CWM Site Safety Rules must be followed (refer to page 4).

CWM CHEMICAL SERVICES, LLC. SAFETY RULES

It is the policy of this facility to provide a safe and healthy working environment for our employees, contractors, drivers, and visitors entering our facility.

Please review and become familiar with the following requirements. They have been implemented specifically to assure that your visit to our site will not snbject you, our employees and/or facility to any type of exposure, physical hazard, and/or any type of regulatory non-compliance. It is essential that you comply fully with these reqnirements.

* Drivers must be trained and be current in OSHA Standard 29CFR 1910.120 Hazardous Waste Operations and Emergency Response. Drivers may be requested to provide current OSHA documentation.

- Personal Protective Equipment (PPE): A driver must provide his own equipment. Any driver who fails to wear the proper PPE while on site may be subject to a one-month ban from site. At a minimum, this equipment shall include:
  1. Hard hat, safety glasses (with side shields), long sleeved shirt, full length pants, and appropriate work shoes - must be worn upon entering the main gate and are out of your vehicle.
  2. Tyvek suits - tyvek must be worn while untarping.
  3. Tyvek suits and respirators - required inside the landfill perimeter and inside the Stabilization buildings.
  4. Gloves - must be worn when untarping/retarping vehicle and when off loading in the landfill.
- NO FACIAL HAIR POLICY - drivers ARE NOT permitted to have beards or facial hair which could prevent a good respirator face seal, as referenced in 29CFR, Part 1910.134 (e)(5)(i). This "Facial Hair" policy is strictly enforced.
- Use of cellular phones are prohibited while driving on site, dumping loads at stabilization, in landfill, or while on the Scale.
- All transporters are required to respond to emergency situations as directed by any member of supervision in the facility.
- Transporters shall report to CWM all accidents or occurrences (including spills) on site.
- Smoking or open flames ARE NOT permitted while within the facility. Smoking is permitted only in designated areas.

  Drivers are expected to remain in or near their vehicles except to scale in and out, tarp and untarp, complete paperwork, or perform activities necessary to unload or secure his vehicle after unloading (break room is exception).
- Eating is not permitted within the facility except in designated areas.
- Drivers must observe & obey all posted safety and traffic signs and follow the instructions given by facility personnel.
- Drivers are not to untarp their vehicles prior to staging at the sampling platform.
- Drivers must receive clearance before departing from the truck scale, sampling platform, before entering or departing the landfill cell, or stabilization building.
- Driver must notify the "Landfill Personnel" when entering the landfill if he believes his load is uneven, or if it contains potentially dangerous/awkward pieces that could present a hazard while unloading, and follow the directions of the operator in the landfill.
- Stay at least 50 feet from other vehicles in the landfill when unloading.
- Drivers must open tailgate of his vehicle prior to unloading.
- After unloading and while still inside the perimeter of the landfill cell, the driver must inspect his vehicle for the presence of waste residue. It is the driver's responsibility to remove this residue prior to leaving the cell. All tailgates or similar closures must also be secured prior to leaving the cell.
- Contaminated tyveks & gloves must be disposed of in the hazardous dumpster near the retarping racks. PPE discarded haphazardly is considered a violation and will be handled accordingly.
- NOTE: CWM personnel must clean the tires and inspect each vehicle prior to its departure from the landfill cell for waste residue on the wheels so as to prevent it from tracking waste out of the cell.
- Upon leaving the landfill, the truck will proceed directly to the retarp racks and then the scale prior to leaving the site. Depart the facility after all documents have been processed and the empty vehicle has been weighed. Absolutely no loitering.

Revised 1/15/07

THE TRANSPORTER AGREES AND CERTIFIES THAT FOR ALL TRANSPORTER EMPLOYEES THAT WILL BE TRANSPORTING WASTE TO OR FROM CWM:

A. **ALL TRANSPORTER** Employees will comply with all Federal, State and Local Safety Laws and Rules.

B. **ALL TRANSPORTER** employees will comply with all CWM Chemical Services, LLC. Safety and Operating Rules and Regulations as posted by signs or communicated by other means at the Model City facility.

C. **ALL TRANSPORTER** employees have been trained in the applicable work tasks to be performed by them.

D. **ALL TRANSPORTER** employees, working in a site designated active/hazardous area, will be trained and are medically qualified in all facets of personal health and safety of hazardous waste operations and have received a minimum of 24 hours training in accordance with the general industry (OSHA) standards 29CFR 1910.120 "Hazardous Waste Operations and Emergency Response".

E. **ALL TRANSPORTER** employees will observe the "black out" hours (7:30am - 9:00 a.m. and 2:15pm - 3:45 p.m.) and arrive at Model City at their designated scheduled time.

F. **ALL TRANSPORTER** employees have been properly instructed to insure strict observation of all safety rules, regulations and routing.

G. **ALL TRANSPORTER** employees have been provided with a copy of this document and instructed to carry it in their vehicles at all times when transporting to CWM Model City.

H. **HE/SHE** will take positive action to cause all such employees to comply with all laws, rules and regulations contained in this document.

Signature _____ Date _____

Company Name _____

Company Address _____

EPA Transporter ID# _____ NYS DEC ID# _____

Revised 1/15/07

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Appendix M

Noise Emissions Analysis

APPENDIX M

NOISE EMISSION ANALYSIS FOR RMU-2

These calculations are based on a 4,200 feet distance between RMU-2 and the nearest residence, located near the intersection of Balmer Road and Porter Center Road. Other assumptions made are as follows:

1. The reference emission level for equipment used on the site is 85dBA at 50 feet (basis is equipment at full throttle noise level measurements made in 2002).

2. There is a clear path for noise between the source and the receiver with no attenuation due to shielding by trees or topographic features.

3. The predictions are based on all equipment operating at full throttle for 33 percent of the time.

4. A practical limit was set at a maximum of three pieces of equipment in use at one time.

5. All pieces of equipment are at approximately the same distance away from the receiver, 4,200 feet.

6. The attenuation constant of "20" in the term "20 log (4,200'/50')" only accounts for geometric spreading of the sound wave. However, in unpaved areas with vegetative cover or soft ground, an attenuation of "30" should be used. Sound waves traveling over this great distance can receive additional attenuation due to meteorological effects. Therefore, the constant of "20" is very conservative. A value of "25" is used, which is a compromise between the value of "20" and "30," and would still ignore the beneficial meteorological effects.

CASE #1: One piece of equipment operating

$$L_{eq} @ 4{,}200' = 85 - 25 * \log\frac{(4200')}{50'} + 10 * \log(0.33)$$

$L_{eq} @ 4{,}200' = 32 dBA$

CASE #2: Two pieces of equipment operating

$L_{eq} @ 4{,}200' = 32 dBA + 3.0$**

$L_{eq} @ 4{,}200' = 35 dBA$

CASE #3: Three pieces of equipment operating

L_{eq} @ 4,200' = 35*dBA* + 1.8**

L_{eq} @ 4,200' = 37*dBA*

Reference: AIHA, Industrial Noise Manual, 3rd Edition, 1975.

** Additive factors are from Table 3.1 of AIHA, Industrial Noise Manual, 3rd Edition, 1975.

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Appendix N

October 12, 2005 NYSDEC
Positive Declaration Letter

STATE ENVIRONMENTAL QUALITY REVIEW ACT
POSITIVE DECLARATION
NOTICE OF DETERMINATION OF SIGNIFICANCE and
INTENT TO PREPARE A DRAFT ENVIRONMENTAL IMPACT STATEMENT
DEC PERMIT APPLICATION NUMBER 9-2934-00022/00225

This notice is issued pursuant to Part 617 of the State regulations for Article 8 (the New York State Environmental Quality Review Act) of the New York State Environmental Conservation Law (ECL).

The New York State Department of Environmental Conservation (the Department), as SEQR Lead Agency, has determined that the proposed action described below may have a significant effect on the environment and that a Draft Environmental Impact Statement (EIS) will be prepared after scoping.

TITLE OF ACTION:

CWM Chemical Services, LLC (CWM) proposes to increase its existing disposal capacity by addition of a new landfill unit identified as Residuals Management Unit 2 (RMU-2) Landfill, located in Model City, Town of Porter, Niagara County

DEPARTMENT PERMIT JURISDICTION:

The Department's jurisdiction includes permits required by ECL Article 27, Titles 9 (Industrial Hazardous Waste Management) and 11 (Industrial Siting Hazardous Waste Facilities), Article 17 (State Pollutant Discharge Elimination System), Article 19 (Air Pollution Control) and possibly 6 NYCRR Part 608 (Water Quality Certification). The Department intends to handle the ECL Article 27, Title 9 Permit application as a major permit modification to the sitewide facility permit pursuant to Part 373-1.7 and Part 621 of the State regulations.

OTHER INVOLVED AGENCIES:

Town of Porter approvals include an Excavation and Development Permit, Building Permits and Site Plan approval.

Industrial Hazardous Waste Facility Siting Board which includes representatives from:

- New York State Department of Health (NYSDOH)
- New York State Department of Transportation (NYSDOT)
- New York State Department of Economic Development (NYSDOED)
- New York State Department of State (NYSDOS)
- New York State Department of Environmental Conservation (NYSDEC)

NYSDOH determination relative to the applicability of their 1972 Commissioner's Order

SEQR STATUS: Type I Action

Applicable Threshold: The physical disturbance and alteration of more than 10 acres of land (approximately 50 acres) for a purpose other than constructing residential structures.

DESCRIPTION OF ACTION:

Site/construct/operate a 50 acre landfill to be designated as RMU-2 for an estimated 3,976,100 cubic yards of hazardous and industrial non-hazardous waste. The proposed landfill would employ state-of-the-art design and operating technology, incorporating primary and secondary liners, and independent primary and secondary leachate collection and pumping systems. A perimeter berm would surround the proposed landfill to control stormwater run-on and run-off. In order to accommodate the proposed landfill, the existing on-site Empty Trailer Parking Area, Full Trailer Parking Area, Emergency Response Garage, Heavy Equipment and Facility Maintenance/Rolloff Repair Building and Meteorological Tower and Drum Management Building will be relocated or replaced at other locations within CWM's Model City Landfill Facility.

LOCATION:

The CWM Model City Facility is located along Balmer Road, 1.9 miles east of the intersection of Balmer Road and Creek Road (NYS Route 18) in the Town of Porter, Niagara County. The proposed RMU-2 Landfill will be located immediately adjacent to the western edge of the existing RMU-1 Landfill at the Model City Facility.

REASONS SUPPORTING THIS DETERMINATION:

During review of this project, the Department identified the following potentially significant adverse environmental impacts:

1. Noise, air quality (including odors), surface water and groundwater quality impacts from project site disturbance and preparation, including demolition, relocation and reconstruction of existing landfill operational and support buildings and facilities on the proposed landfill site, including mining soils and importation for landfill construction.

2. Release of contaminants in the disturbance, handling, treatment or disposal of on-site structures and soils which may contain chemical or radiological contaminants from historic usage of the CWM Model City site.

3. Noise, air quality (including odors), surface water and groundwater quality impacts from operation of the proposed landfill.

4. Light pollution effects from night time operations of the proposed landfill.

5. Visual impacts during facility construction and operation, including filled and closed site configuration.

6. Impacts on historic/archeological resources, on-site and in the project area.

7. Truck traffic impacts on area roads from movement of landfill construction materials, and from waste shipments.

8. Impacts to local community services, such as fire protection, other emergency service and response, and security.

9. Commitment of project site to waste disposal; negating various potential future uses of those lands.

SUMMARY/CONCLUSIONS:

The Department, therefore, has concluded that the project may have a significant effect on the natural resources of the State and/or the health, safety and welfare of the public. Therefore, a Draft EIS will be prepared. In reaching this decision, the Department carefully considered the "Criteria" for Determination of Significance listed in the SEQR Regulations (6 NYCRR 617.7). The Department will require that the applicant prepare a draft scoping document. Once the Department has reviewed the draft scoping document for adequacy, a public scoping session will be scheduled prior to the preparation of a Draft EIS.

FOR FURTHER INFORMATION:

Contact Person: Jeffrey E. Dietz
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New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999
(716) 851-7165

Date: 10/12/2005

Steven J. Doleski
Regional Permit Administrator

cc: DEP File
Environmental Notice Bulletin
Division of Environmental Permits, Albany Main Office
Mr. William Popham, Blasland, Bouck & Lee, Inc.
Honorable Merton Wiepert, Supervisor, Town of Porter
Mr. John Hino, CWM, Attn: Ms. Jill Banaszak